

**ADDITIONAL EQUIPMENT AND SUPPLIES  
NEEDED FOR ORNAMENTAL HORTICULTURE COURSE**

| <u>Name and Description</u>   | <u>Number Recommended</u> | <u>Number on Hand</u> |
|---|---------------------------|-----------------------|
| Greenhouse - 20' x 100'   | 1                         |                       |
| Potting Room - 18' x 20'  | 1                         |                       |
| Lath House - 35' x 55'  | 1                         |                       |
| Potting Room Storage - 5' x 12'   | 1                         |                       |
| Soil and Equipment Storage (covered shed)<br>14' x 36'  | 1                         |                       |
| Fenced area to enclose greenhouse, lath house, flower beds, hot beds, cold frames, nursery area, and turf management area - 2 acres | 1                         |                       |
| Student work benches - 3' x 20'   | 3                         |                       |
| Teacher's work bench with sink  | 1                         |                       |
| Horticultural refrigerator  | 1                         |                       |
| Seeder - hand operated  | 1                         |                       |
| Axe   | 1                         |                       |
| Projector - slide and film strip  | 1                         |                       |
| Screen - movie - 5' (flat matt)   | 1                         |                       |
| Overhead projector - Viewgraph  | 1                         |                       |
| Duplicator  | 1                         |                       |
| Brooms (street)   | 3                         |                       |
| Cultivator - long handle (garden plow)  | 1                         |                       |
| Dusters - Knapsack  | 2                         |                       |
| Edgers - lawn   | 3                         |                       |
| Hoes - nursery  | 6                         |                       |
| Knives - cutting  | 20                        |                       |
| Rakes - lawn (landscaping type - magnesium)   | 6                         |                       |
| Rakes - garden - steel  | 6                         |                       |
| Roller - water ballast - 24"  | 1                         |                       |



| <u>Name and Description (cont.)</u>                          | <u>Number Recommended</u> | <u>Number on Hand</u> |
|--|---------------------------|-----------------------|
| Square point, long handle                                    | 5                         |                       |
| Shears, pruning  | 15                        |                       |
| Snips - pruning  | 12                        |                       |
| Shears, grass 6"   | 6                         |                       |
| Shears - pruning, long handle                                | 2                         |                       |
| Sod cutter   | 1                         |                       |
| Saw pruning 20"  | 6                         |                       |
| Ball and burlapping shovels                                  | 5                         |                       |
| Lopping shears   | 10                        |                       |
| Hedge shears   | 10                        |                       |
| Saw pruning long handled 12'                                 | 2                         |                       |
| Hedge clipper 8"   | 4                         |                       |
| Hedge clipper (electric) 16"                                 | 2                         |                       |
| Grass Hook   | 6                         |                       |
| Mattock  | 2                         |                       |
| Pick   | 2                         |                       |
| Fork (spading)   | 2                         |                       |
| Trowels  | 12                        |                       |
| Shear can  | 2                         |                       |
| Labler plant   | 1                         |                       |
| Lattern (Wax melter)   | 1                         |                       |
| Tree trimmer 12'   | 1                         |                       |
| Sprinkling can   | 2                         |                       |
| Soil sterilizer  | 1                         |                       |
| Bulb planters - hand type and long handle<br>(2 each)        | 4                         |                       |
| Root feeders - pipe type                                     | 2                         |                       |
| Heating cables and thermostats - 120' length<br>(30 sq. ft.) |                           |                       |

| <u>Name and Description (cont.)</u>                           | <u>Number Recommended</u> | <u>Number on Hand</u> |
|---|---------------------------|-----------------------|
| Soil testing kit - (Sudbury or equivalent)                    | 2                         |                       |
| Compost grinder - 6 hp.                                       | 1                         |                       |
| Irrigation system - sprinkler with booster pump               | 1                         |                       |
| Truck - 1/2 or 3/4 ton  | 1                         |                       |
| Electric extension cord - 25'                                 | 2                         |                       |
| Water breakers and tubing (goes on end of hose)               | 2                         |                       |
| Water hoses 3/4", 25' each                                    | 2                         |                       |
| Misting time clock, connections, and pipe for propagating bed | 1                         |                       |
| Boards - Drawing (17" x 22")                                  | 16                        |                       |
| Scale (architects) plastic (molded)                           | 16                        |                       |
| Set - drawing   | 16                        |                       |
| T-Squares   | 16                        |                       |
| Cans - Filler, oil - 1 qt. and 2 qt. each                     | 1                         |                       |
| Cans - Gasoline, safety - size optional 2 gal.                | 2                         |                       |
| Funnel with screen for filling fuel tank                      | 2                         |                       |
| Extinguisher, fire SS-15                                      | 2                         |                       |
| Oiler, hand   | 2                         |                       |
| Wire stretcher 4-pulley roller - bearing stretcher hoist      | 1                         |                       |
| Cans - Oiler - squirt - assorted sizes                        | 3                         |                       |

DOCUMENT RESUME

ED 035 229

EF 003 778

**TITLE** Facilities for Vocational Agriculture Departments in West Virginia.

**PUB DATE** 67

**NOTE** 50p.

**AVAILABLE FROM** Division of Vocational-Technical Education, West Virginia State Board of Education, State Capitol, Charleston, West Va. 25305

**EDRS PRICE** EDRS Price MF-\$0.25 HC Not Available from EDRS.

**DESCRIPTORS** \*Agricultural Education, Agricultural Machinery, \*Equipment, \*Facility Guidelines, \*Vocational Agriculture

**ABSTRACT**

Lists are given of buildings, equipment and supplies necessary to establish and maintain a complete program of vocational education in agriculture for high school students, out-of-school youth, and adults in the community. Quantities and guidelines are specified. Photographs and diagrammatic representations are also included. (PS)

ED035229

EF003778



AGRICULTURAL SCIENCE



ORNAMENTAL HORTICULTURE

FACILITIES  
FOR  
VOCATIONAL AGRICULTURE  
DEPARTMENTS  
IN  
WEST VIRGINIA  
1967



CONSERVATION



AGRICULTURAL MECHANICS

WEST VIRGINIA  
STATE BOARD OF EDUCATION  
DIVISION OF VOCATIONAL-TECHNICAL EDUCATION  
STATE CAPITOL  
CHARLESTON, WEST VIRGINIA  
25305

U.S. DEPARTMENT OF HEALTH EDUCATION & WELFARE  
OFFICE OF EDUCATION

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## FOREWORD

This publication is a revision of the Vocational Agriculture Standards revised and published in 1962. It has been developed to assist county boards of education, school administrators, and teachers of vocational agriculture in providing facilities for departments of vocational agriculture in West Virginia. The bulletin can serve as a basis for establishing new departments and be used as a guide for established departments to expand program and provide the necessary facilities and equipment for effective vocational instruction.

During the past year vocational agriculture teachers, supervisors, and teacher educators have suggested desirable changes needed in the lists of tools, equipment, and supplies. The revised lists represent the combined recommendations of all groups interested in providing the buildings, equipment, and supplies necessary to establish and maintain a complete program of vocational education in agriculture for high school students, out-of-school youth and adults in the community.

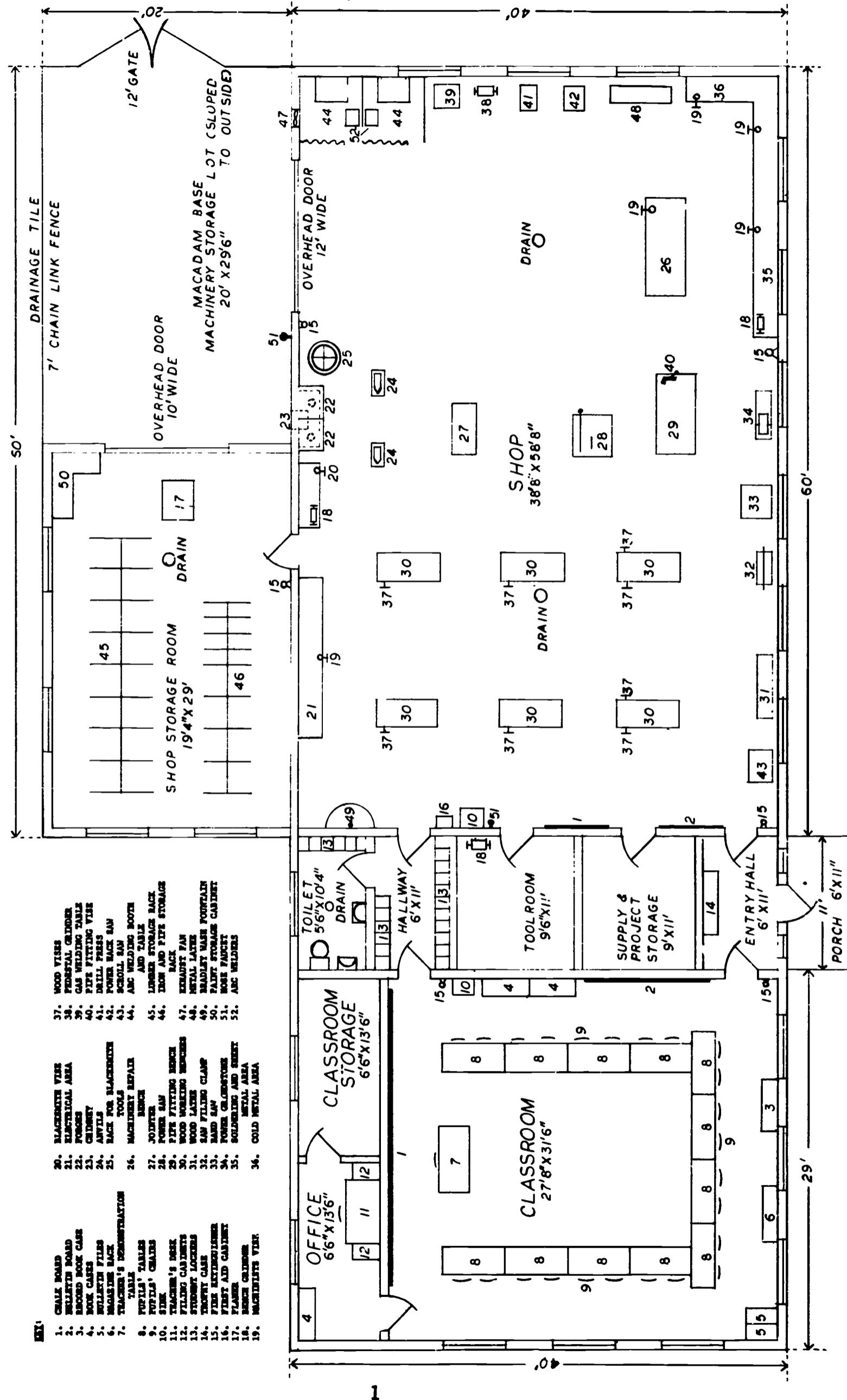
Guy E. Cain, Program Specialist, Vocational Agriculture, acted as chairman of the committee responsible for this publication. Special assistance was requested in preparing this revision from Carl S. Thomas, Program Specialist, Vocational Agriculture; Warren G. Kelly, Assistant Professor, Agricultural Education, West Virginia University; Raymond Cunningham, County Vocational Supervisor, Ripley; Gerald Chadock, Vo-Ag teacher, Petersburg; Richard Glass, Vo-Ag teacher, Masontown; and David Smith, Vo-Ag teacher, Green Bank.

W. H. Wayman, State Supervisor  
Vocational Agriculture

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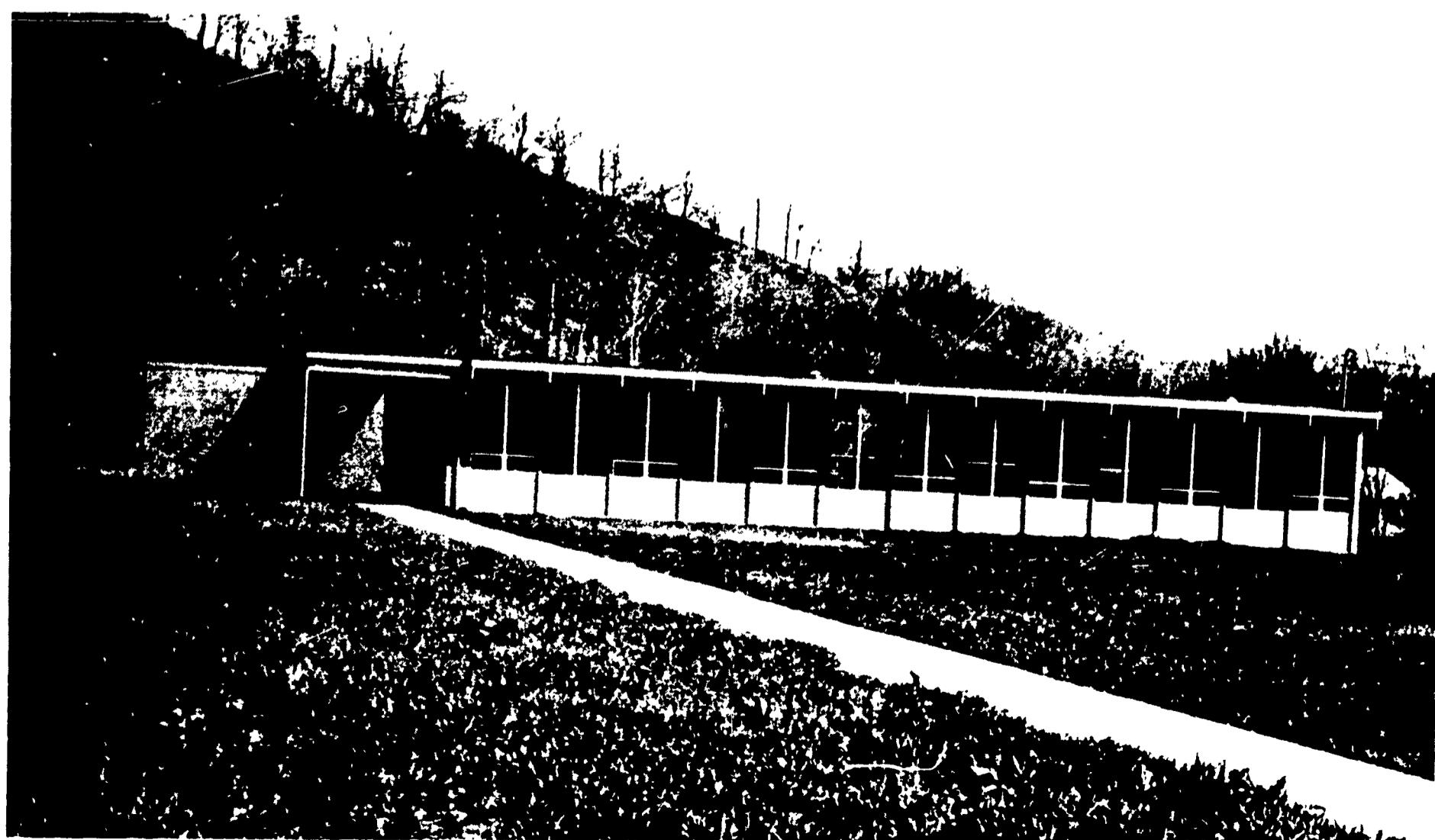
## A Suggested Layout For Vocational Agriculture Classroom And Shop



## ONE TEACHER DEPARTMENT AT HILLSBORO



## TWO TEACHER DEPARTMENT AT WAYNE



## VOCATIONAL AGRICULTURE FACILITIES

Factors influencing the location of the facilities include: Isolations from quiet areas of the building; location to provide easy delivery of instructional supplies, equipment and materials including farm machinery; location convenient to industrial arts or other vocational areas; and location which permits isolation from remainder of the building for after-school use.

### 1. Classroom:

- a. Size: Base preliminary determination of area upon allotment of 30 to 35 square feet per pupil, (Minimum 800 square feet). To more accurately determine area, trial room layouts should be made using scale templates representing furniture and equipment with scale drawings of floor and wall elevations.
- b. Capacity: 24 pupils.
- c. Location:
  - (1) Convenient or direct access to shop and office.
  - (2) Ground floor, convenient to a building entrance.
  - (3) Permit maximum controlled natural light.
- d. Activities: Lecture; discussion; view slides, films, and other projected materials; write or draw on chalkboard and tables; display pupils' work; store instructional materials and supplies.
- e. Equipment and facilities:
  - (1) Chalkboard: 20 to 24 linear feet, four feet wide; display and chart rail above.
  - (2) Tackboard: As much as possible; minimum-eight linear feet; display and chart rail above. Locate one section adjacent to entrance.
  - (3) Two-pupil tables (Minimum of 12; 24" x 60" and 30" high; see pp. 7-8) and chairs.
  - (4) Teacher's desk and chair. (See pp. 7)
  - (5) Demonstration table (24" x 60" and 36" high).
  - (6) Storage:
    - (a) Letter-size four-drawer file cabinet.
    - (b) Legal-size four-drawer file cabinet (minimum of 2; pp. 9).
    - (c) Magazine rack (see pp. 10).
    - (d) Minimum of 40 linear feet of adjustable shelving.
    - (e) Record book case (see pp. 11-12).
  - (7) Duplex electrical outlets on all walls, if possible.
  - (8) Facilities for light control to permit use of visual aids.

### 2. Agriculture mechanics shop:

- a. Size: Base preliminary determination of area on allotment of 100 to 125 square feet per pupil (Minimum, 2400 square feet). To more accurately determine area, trial room layouts should be made using scale templates representing furniture and equipment with scale drawings on floor and wall elevation.  
NOTE: The assistance of specialists in vocational agriculture should be secured in planning these facilities.

b. Capacity: 24 pupils

c. Location:

- (1) Convenient access to classroom and instructor's office.
- (2) Direct access to service drive.

d. Activities: Construct farm equipment; repair farm machinery; weld; finish and paint equipment; operate power equipment; store tools, raw materials, partially completed projects; etc.

e. Equipment and facilities:

- (1) Varies with program offered in shop (see pp. 24-32).
- (2) Chalkboard and tackboard: Six linear feet, each.
- (3) Window sills should be at least 40 inches above the floor to permit installation of equipment along wall and electrical outlets above work benches.
- (4) Floor or ceiling electrical grid system for 110 and 220 power to various machines with master control switches.
- (5) Overhead door from service drive (12 to 14 feet wide and 10 feet high).
- (6) Storage for hand tools, consumable raw materials and supplies may be provided in separate storage room or in cabinets and racks within shop. Area required equivalent to storage room of 700 to 800 square feet.
- (7) Fire extinguisher (Minimum of 3).
- (8) Work benches - wooden (Minimum of 30 linear feet (see pp. 22).
- (9) Work benches - metal (Minimum of 40 linear feet).
- (10) Metal Storage Rack (see pp. 21).
- (11) Lumber Storage Rack (see pp. 23).
- (12) Floor drain near machinery repair area.
- (13) Half circle wash fountain (Bradley) installed in shop.

### 3. Machinery Storage Lot

a. Size: 600 to 1,000 square feet.

b. Location: Convenient to shop entrance and service drive.

c. Equipment:

- (1) Macadam base sloped for drainage.
- (2) Surrounded by chain link fence at least 7 foot high.
- (3) Double gate entrance 12 to 14 feet wide.

### 4. Instructor's office:

a. Size: 100 to 150 square feet.

b. Location:

- (1) Convenient or direct access to shop and classroom.

c. Equipment and facilities:

- (1) Teacher's desk and chair.

(2) One or two conference chairs.

(3) Storage:

- (a) Letter-size four-drawer file cabinet (with lock).
- (b) 20 to 30 linear feet of open or closed shelving.

(4) Minimum of two duplex electrical outlets.

5. Storage room:

a. Size: 100 to 150 square feet.

b. Location:

- (1) Convenient or direct access to the classroom.
- (2) Direct access to the office.

c. Activities: Storage of instructional supplies, equipment, materials, and visual aids.

d. Equipment and facilities:

- (1) Adjustable shelving of various height and depth.

6. Toilet

a. Size: 50 to 100 square feet.

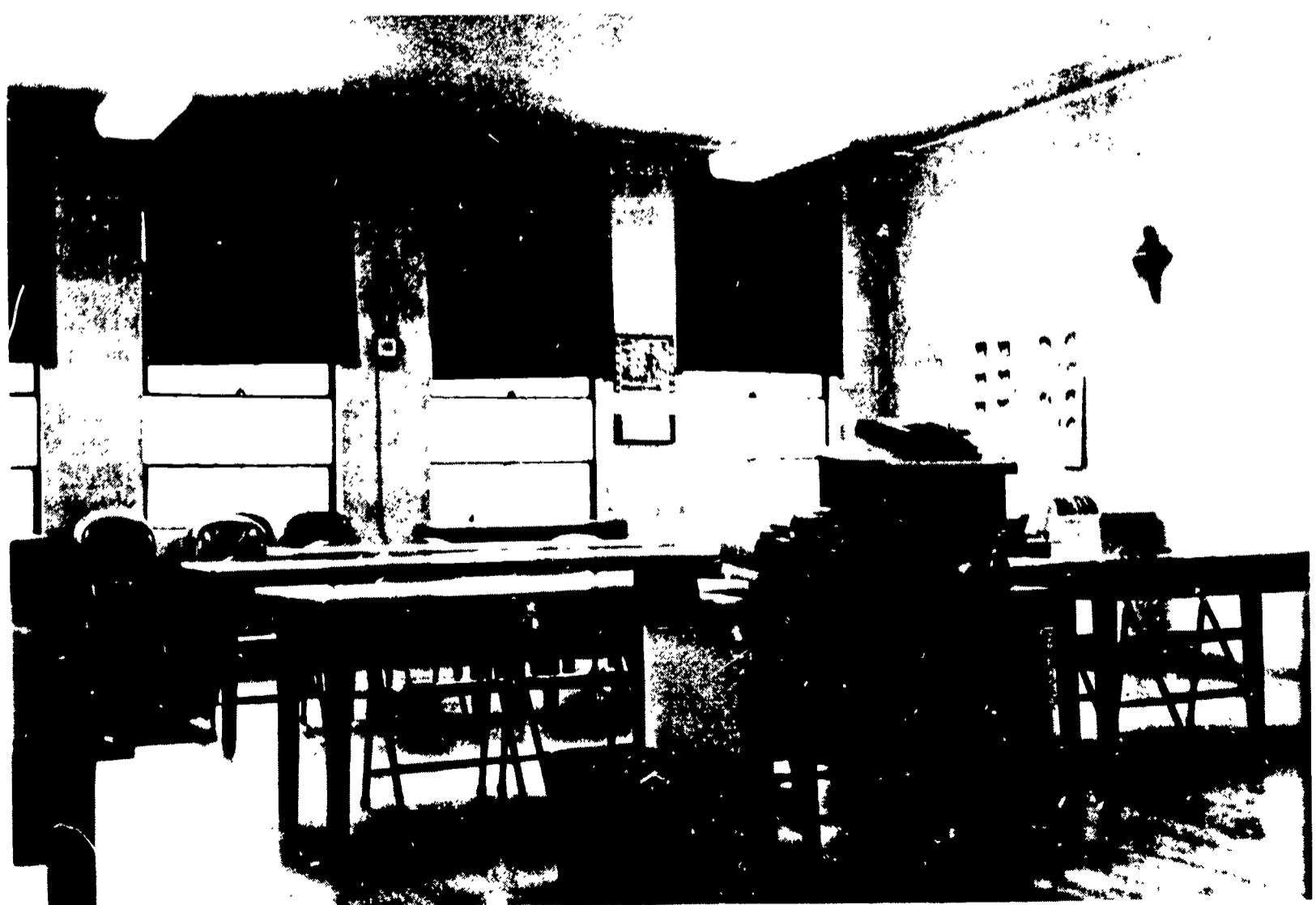
b. Location: Convenient to both shop and classroom.

c. Equipment:

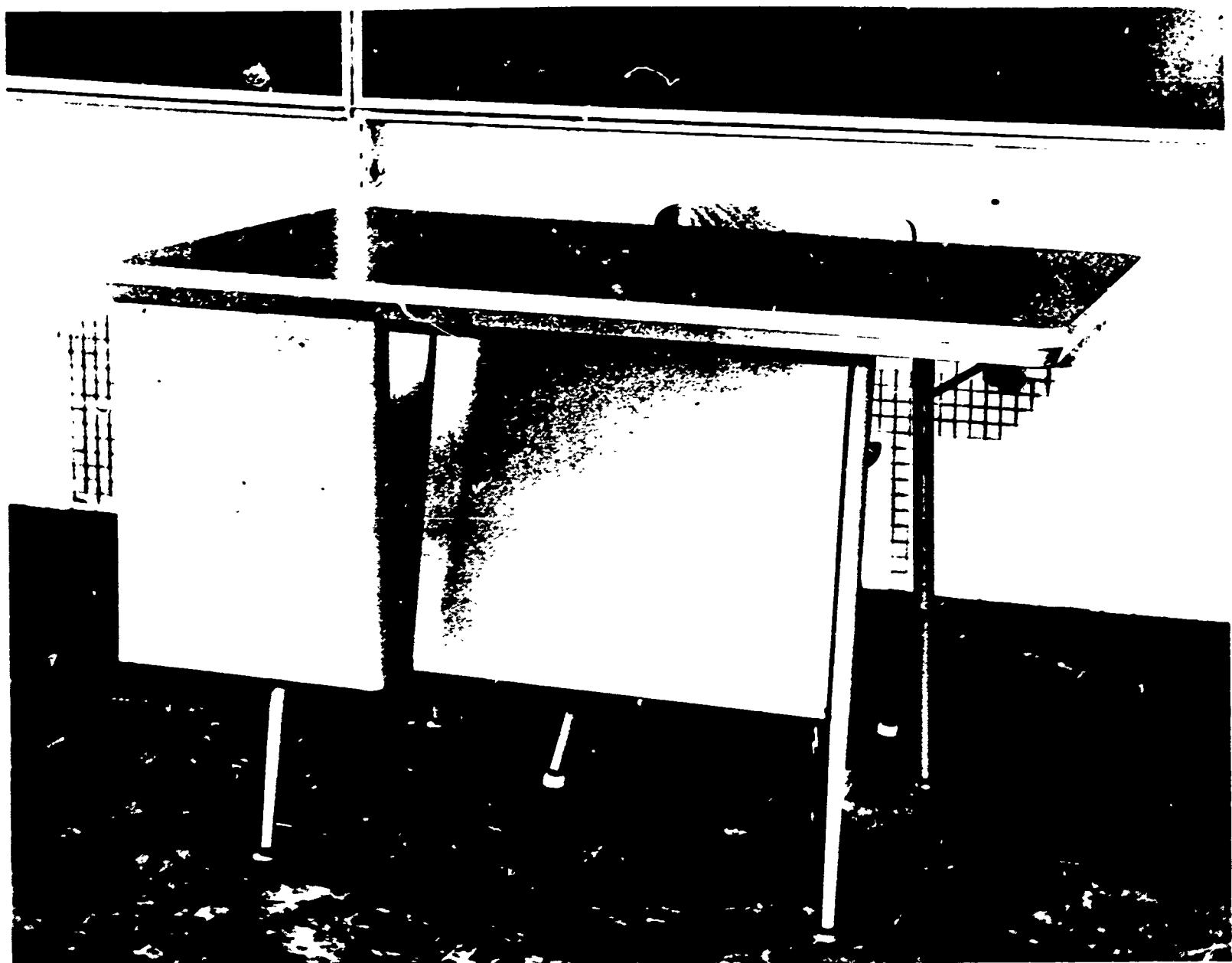
- (1) Equipped with commode, urinal and wash basin.
- (2) Wall mirror.
- (3) Floor drain.
- (4) Storage cabinet for cleaning supplies.
- (5) May be of sufficient size to include student lockers.

NOTE: Refer to NCSC Guide for Planning School Plants and West Virginia Handbook on Planning School Plants for additional information on aspects common to other instructional areas.

# CLASSROOM



# TEACHER'S DESK

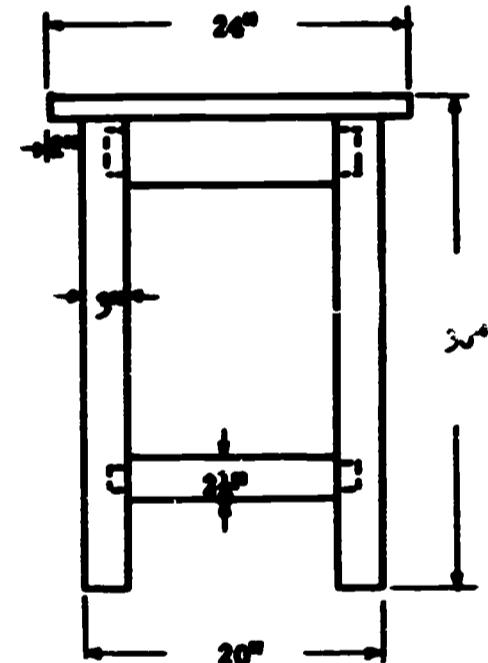
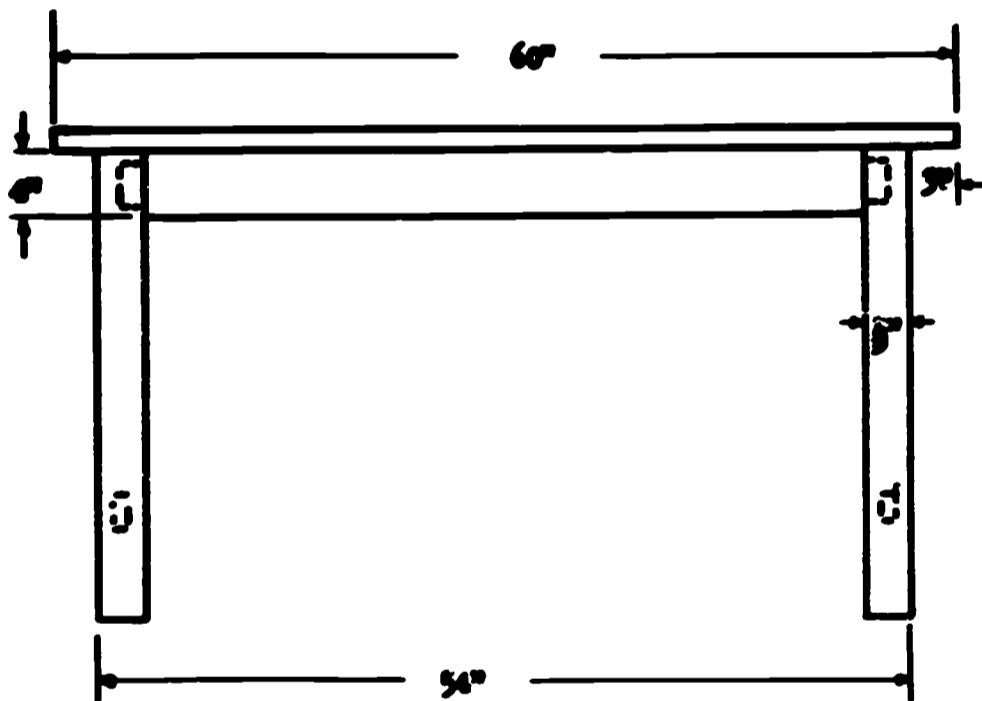
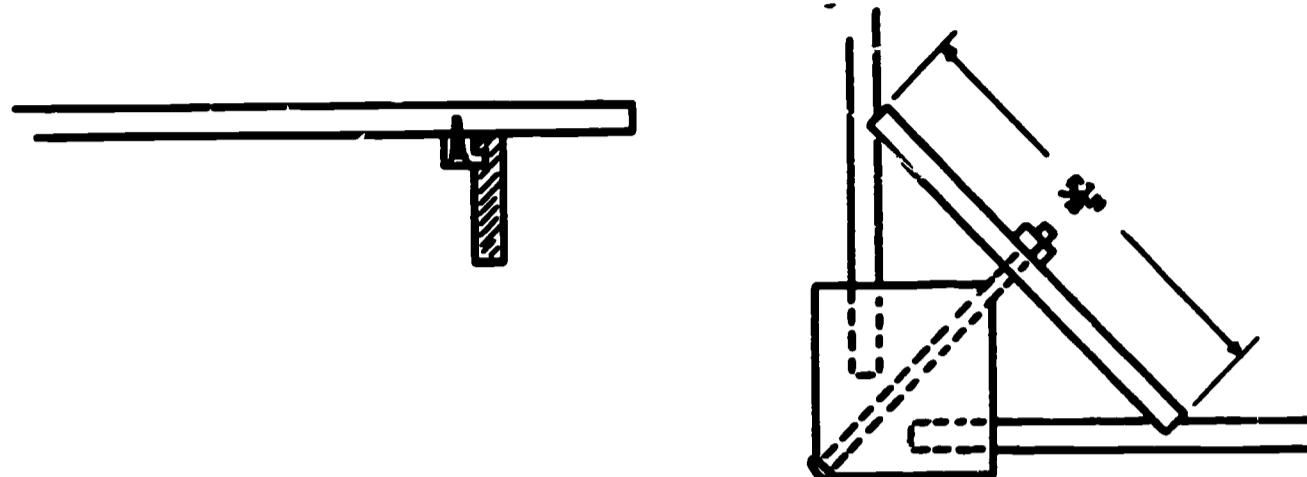


# STUDENTS' TABLE & CHAIRS



WEST VIRGINIA

VO-AG CLASSROOM TABLE

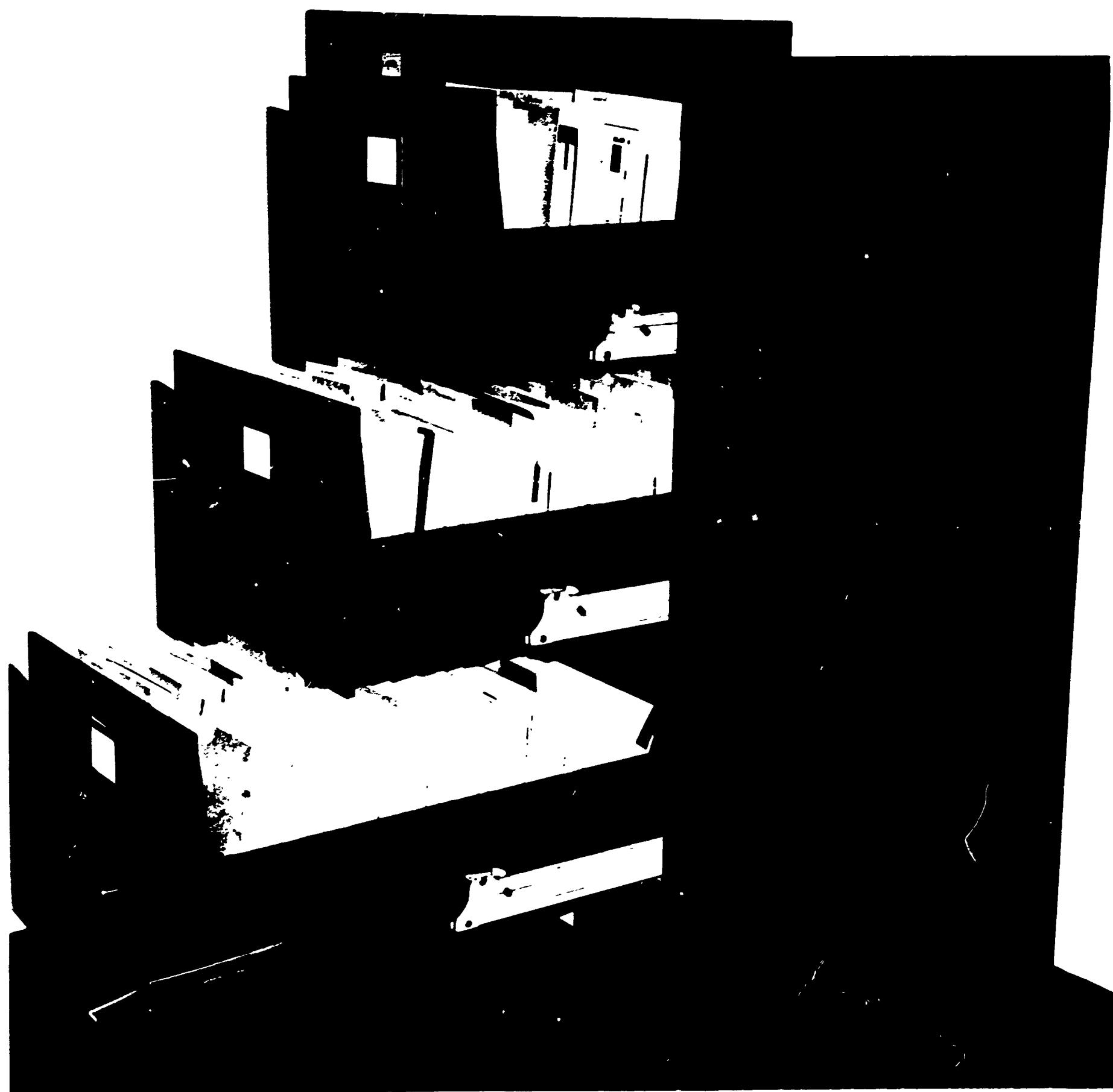


BILL OF MATERIAL

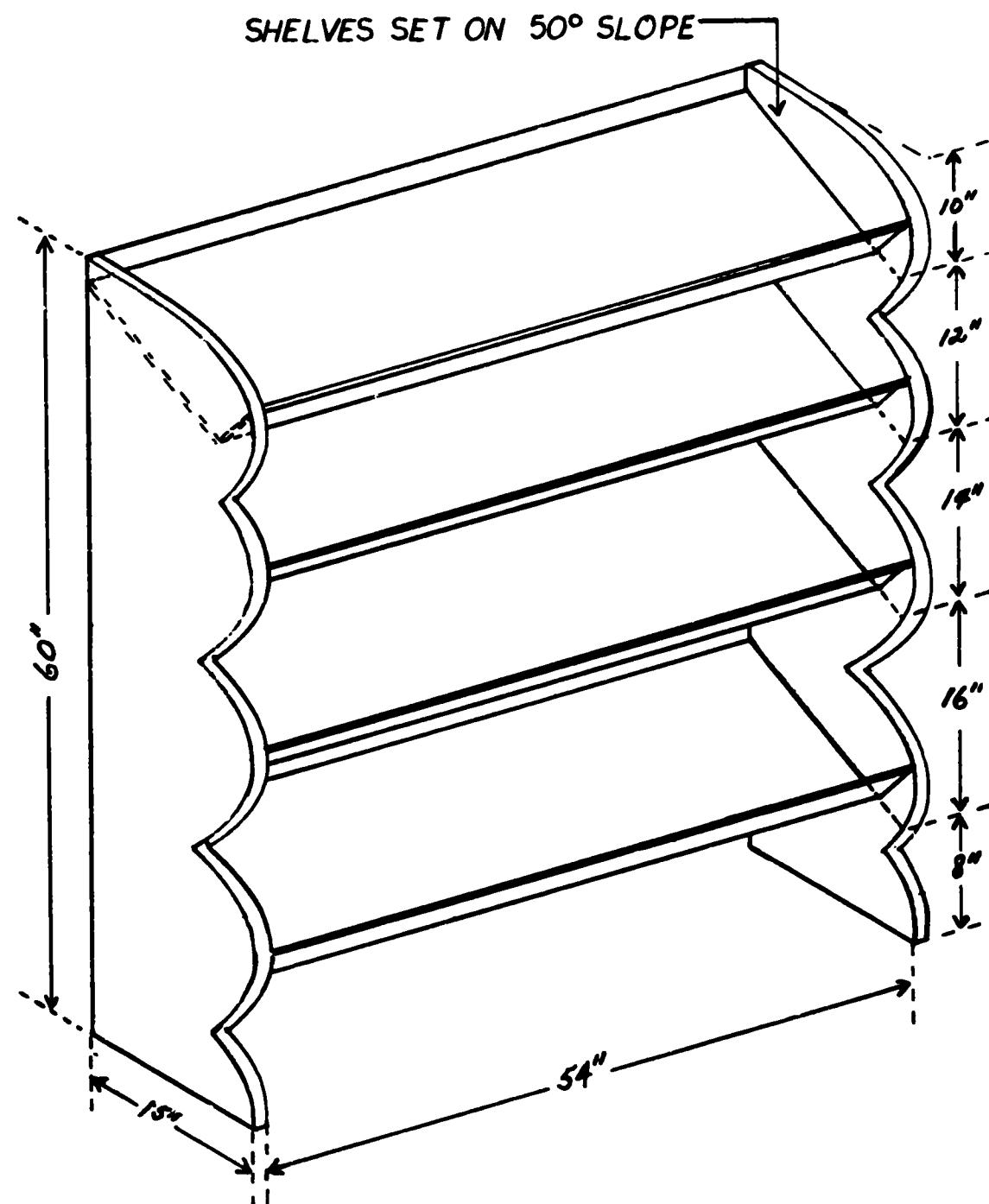
3 PCS. 5' x 8" x 1" TOP  
 2 PCS. 4'-5" x 4" x 1" SIDE RAIL  
 2 PCS. 1'-5" x 4" x 1" END RAIL  
 4 PCS. 2'-5" x 3" x 3" LEGS  
 2 PCS. 1'-5" x 2 1/2" x 1" END BRACES

5 PCS. 5 1/2" x 4" x 1" LEG CORNER BRACE  
 2 PCS. 1'-2" x 1 1/2" x 1" BUTTON  
 2 PCS. 4" x 1 1/2" x 1" BUTTON  
 4 - 3/8" x 5" CARRIAGE BOLTS FOR LEGS  
 24 - 1 1/2"-10 FLATHEAD WOOD SCREWS FOR BUTTON

# BULLETIN FILE



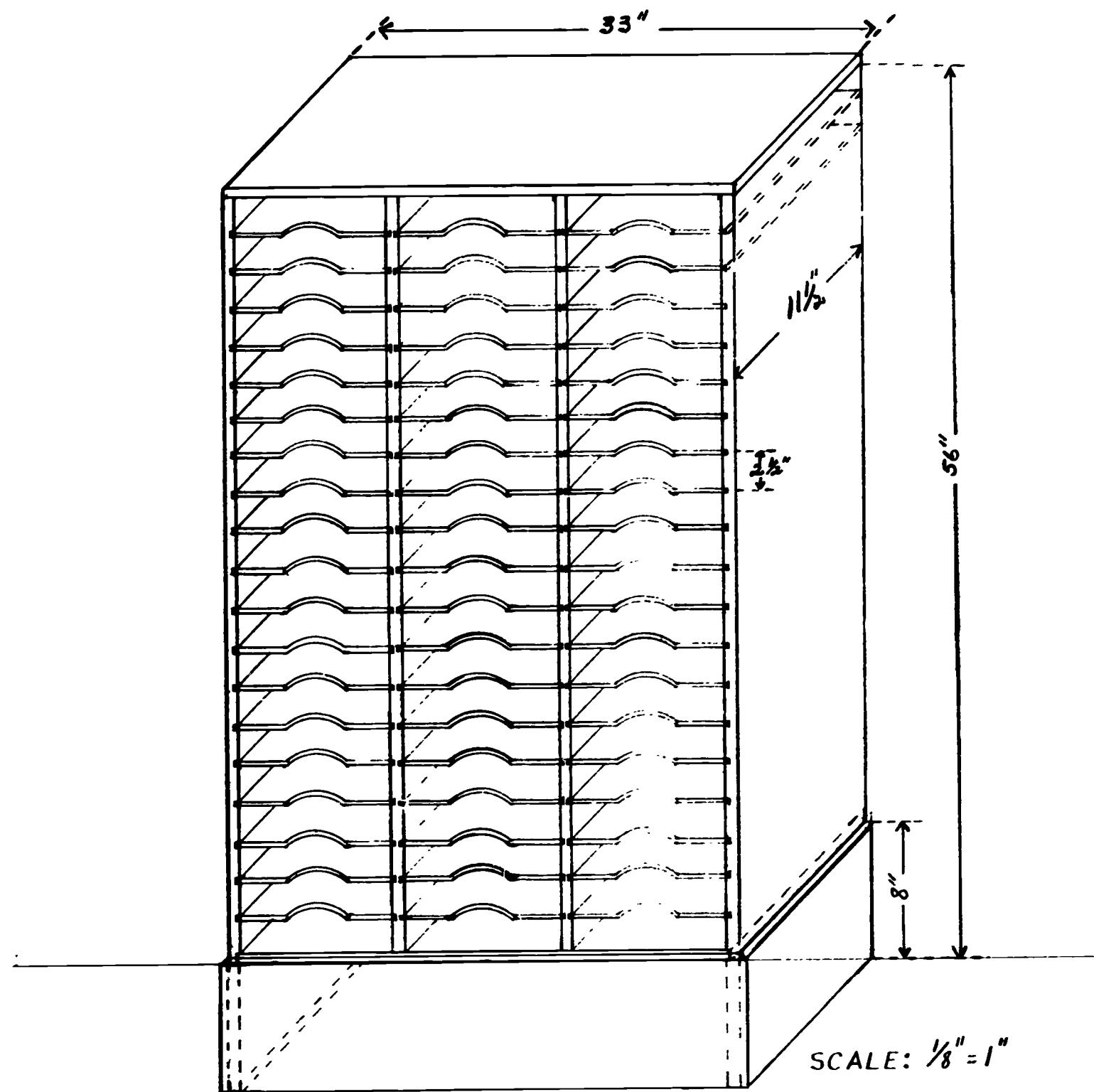
# MAGAZINE RACK



## BILL OF MATERIALS

|   |  |
|---|--|
| 2 PIECES - 3/4" x 15" x 60" PLYWOOD ENDS                | 36 - NO. 9, 1 1/2" FLAT HEAD WOOD SCREWS |
| 4 PIECES - 3/4" x 16" x 54" PLYWOOD SHELVES             | 16 - NO. 7, 1" FLAT HEAD WOOD SCREWS     |
| 4 PIECES - 1/2" x 3 3/4" x 54" PLYWOOD FRONT OF SHELVES | 16 - NO. 5, 1 1/4" FLAT HEAD WOOD SCREWS |
| 1 PIECE - 1/4" x 48" x 55 1/2" HARDBOARD BACK           | 20 - NO. 5, 3/4" ROUND HEAD WOOD SCREWS  |

# Vo-Ag Students Record Book Case



## Bill Of Materials

2 PIECES 3/4" x 11 1/2" x 56" - SIDES

2 PIECES 3/4" x 11 1/2" x 42 1/4" - CENTER UPRIGHTS

1 PIECE 3/4" x 11 1/2" x 33" - TOP

1 PIECE 3/4" x 11 1/2" x 31 7/8" - BOTTOM SHELF

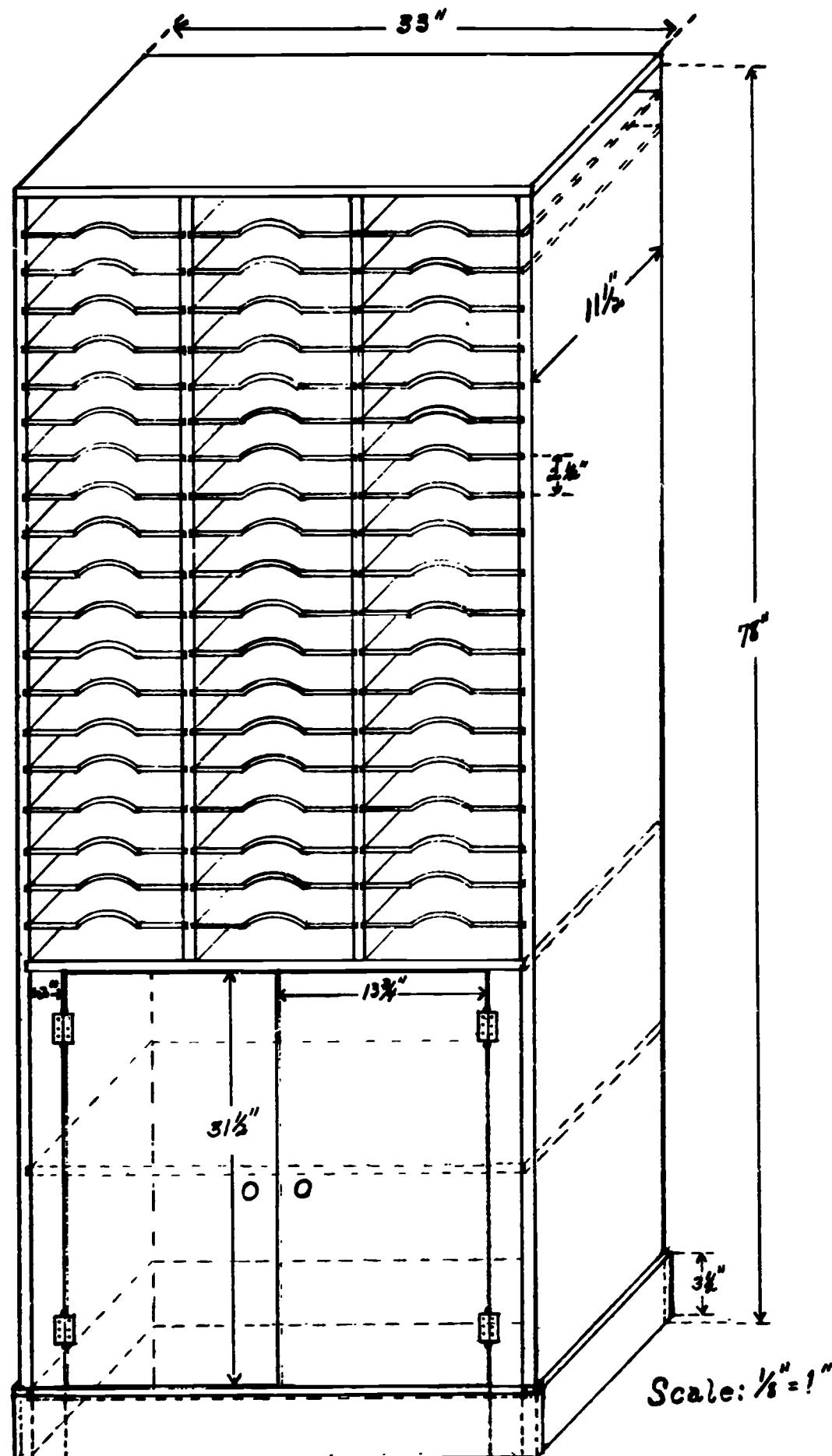
1 PIECE 3/4" x 8" x 5' - BASEBOARD

57 PIECES 1/8" x 10 3/8" x 11 1/2" - MASONITE FOR SHELVES

1 PIECE 1/8" x 33" x 50" - MASONITE FOR BACK

1/8" x 3/4" FLAT MOLDING FOR ALL EDGES TO COVER DADO CUTS

# Vo-Ag Students Record Book Case



## Bill Of Materials

2 pieces  $3/4'' \times 11 \frac{1}{2}'' \times 78''$  - sides  
 2 "  $3/4'' \times 11 \frac{1}{2}'' \times 42 \frac{1}{4}''$  - center uprights  
 1 "  $3/4'' \times 11 \frac{1}{2}'' \times 33''$  - Top  
 1 "  $3/4'' \times 10 \frac{3}{4}'' \times 31 \frac{7}{8}''$  - Bottom shelf  
 1 "  $3/4'' \times 19 \frac{3}{4}'' \times 31 \frac{7}{8}''$  - Center shelf  
 1 "  $3/4'' \times 11 \frac{1}{2}'' \times 31 \frac{7}{8}''$  - Bottom of record book section  
 2 "  $3/4'' \times 2'' \times 35''$  - Door facings on bottom section  
 2 "  $3/4'' \times 13 \frac{3}{4}'' \times 31 \frac{1}{2}''$  - Doors

1 "  $3/4'' \times 3 \frac{1}{2}'' \times 5'$  - Baseboard  
 57 "  $1/8'' \times 10 \frac{3}{8}'' \times 11 \frac{1}{2}''$  - Masonite for shelves  
 1 "  $1/8'' \times 33'' \times 78 \frac{3}{4}''$  - Masonite for back  
 2 pair  $3/4'' \times 2 \frac{1}{2}''$  hinges  
 2 --  $3/4''$  round door knobs  
 2 -- Spring or magnet catches for doors  
 $1/8'' \times 3/4''$  flat molding for all edges to cover dado cuts

## EQUIPMENT FOR AGRICULTURAL SCIENCE CLASSES

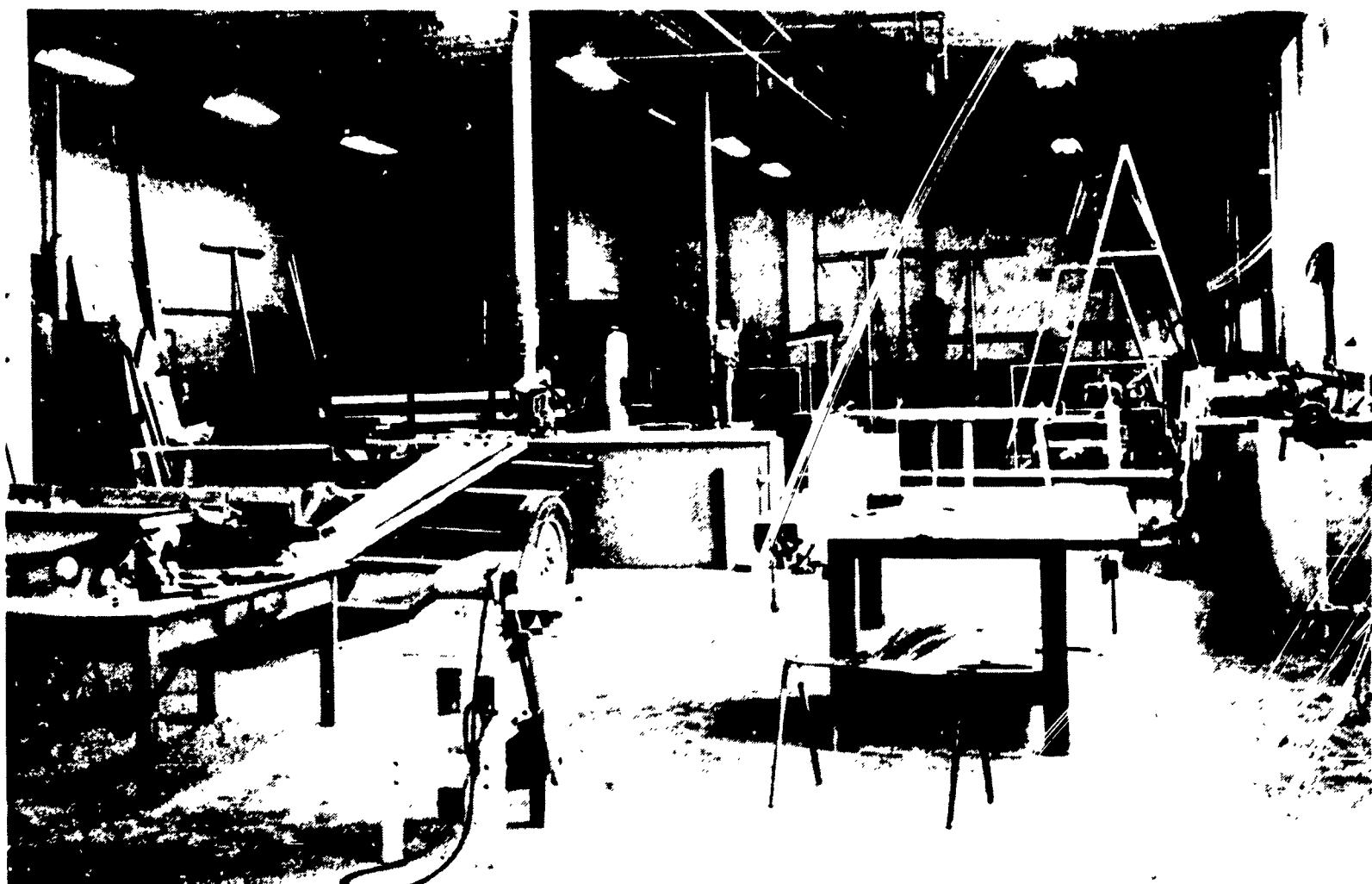
|  | <u>Number Recommended</u> | <u>Number On Hand</u> |
|--|---------------------------|-----------------------|
| <b>Mimeograph Machine</b>  | 1                         |                       |
| <b>Camera-35 mm, Single Lens Reflex</b>                                | 1                         |                       |
| <b>Camera-Twin Lens Reflex, 2½ x 2½</b>                                | 1                         |                       |
| <b>Overhead Projector and Case</b>                                     | 1                         |                       |
| <b>Film Projector, 16 mm sound</b>                                     | 1                         |                       |
| <b>Film Projector, 35 mm for 2" x 2" slides &amp; film strips</b>      | 1                         |                       |
| <b>Portable Screen, Matte Type, 60" x 60" with Keystone Eliminator</b> | 1                         |                       |
| <b>Tape Recorder</b>   | 1                         |                       |
| <b>Record Player, 45 and 33</b>  | 1                         |                       |
| <b>Stapler and staples</b>   | 1                         |                       |
| <b>Pencil Sharpener</b>  | 1                         |                       |
| <b>Paper Punch, adjustable 1 to 4 hole</b>                             | 1                         |                       |
| <b>Microscope</b>  | 1                         |                       |
| <b>Magnet Flannel Board - locally constructed</b>                      | 1                         |                       |
| <b>Opaque Projector and accessories</b>                                | 1                         |                       |
| <b>Portable Chalk Board, 4' x 6'</b>                                   | 1                         |                       |
| <b>Film Strip File Case, 400 size</b>                                  | 1                         |                       |
| <b>2" x 2" Slide File Case, 600 size</b>                               | 2                         |                       |
| <b>Spirit Duplicator, portable - hand operated</b>                     | 1                         |                       |
| <b>Portable Chart Board</b>  | 1                         |                       |
| <b>Egg Scales</b>  | 1                         |                       |
| <b>Egg Candler</b>   | 1                         |                       |
| <b>Folding Wire Exhibition Pen, 2 compartment</b>                      | 1                         |                       |
| <b>Poultry Sticker and funnel</b>                                      | 1                         |                       |
| <b>Poultry Debeaker</b>  | 1                         |                       |
| <b>Milk Tester with accompanying supplies</b>                          | 1                         |                       |
| <b>Mastitis Test Kit</b>   | 1                         |                       |
| <b>Dehorner - calf</b>   | 1                         |                       |
| <b>Dehorner - older animals</b>  | 1                         |                       |
| <b>Syringe - heavy duty 20cc and 40cc</b>                              | 1                         |                       |
| <b>Scotch Combs, course, medium and fine</b>                           | 3                         |                       |
| <b>Steel Curry Comb</b>  | 1                         |                       |
| <b>Rice Root Brushes, small and large</b>                              | 2                         |                       |
| <b>Castrating Knife</b>  | 1                         |                       |
| <b>Skinning Knife</b>  | 1                         |                       |
| <b>Hoof Knife</b>  | 1                         |                       |
| <b>Horn Rasp</b>   | 1                         |                       |
| <b>Hoof Rasp</b>   | 1                         |                       |
| <b>Clipping Head for Shearmaster</b>                                   | 1                         |                       |
| <b>Shearmaster with shearing head</b>                                  | 1                         |                       |
| <b>Show Stick for cattle</b>   | 2                         |                       |
| <b>Halters, rope (to be made locally)</b>                              | 2                         |                       |
| <b>Catching Hooks (to be made locally)</b>                             | 2                         |                       |
| <b>Elastrator and supplies</b>   | 1                         |                       |
| <b>Dose Syringe, 4 oz.</b>   | 1                         |                       |
| <b>Graduate, 4 oz.</b>   | 1                         |                       |
| <b>Hand Shears</b>   | 1                         |                       |
| <b>Portable Shearing Platform (to be made locally)</b>                 | 1                         |                       |

|  | <u>Number Recommended</u> | <u>Number On Hand</u> |
|--|---------------------------|-----------------------|
| Pig Teeth Nippers                                | 1                         |                       |
| Hog Ringer                                       | 1                         |                       |
| Butchering Thermometer                           | 1                         |                       |
| Boning Knife, 6"                                 | 1                         |                       |
| Butchering Knife, 8"                             | 1                         |                       |
| Sticking Knife                                   | 1                         |                       |
| Bell Scraper                                     | 4                         |                       |
| Butchers Steel                                   | 1                         |                       |
| Meat Saw, 22"                                    | 1                         |                       |
| Hog Holder                                       | 1                         |                       |
| Ear Notcher for Swine                            | 1                         |                       |
| Sheep Cards (assorted)                           | 3                         |                       |
| Balling Gun                                      | 1                         |                       |
| Curing Boxes for Bacon (to be made locally)      | 4                         |                       |
| Hog Hooks (to be made locally)                   | 4                         |                       |
| Gambrels (to be made locally)                    | 4                         |                       |
| Show Hurdle (to be made locally)                 | 2                         |                       |
| Soil Testing Outfit                              | 1                         |                       |
| Soil Auger or Tube                               | 1                         |                       |
| Hand Pruning Shears                              | 8                         |                       |
| Pruning Saws (single cutting edge)               | 2                         |                       |
| Lopping Shears                                   | 2                         |                       |
| Pole Pruner                                      | 1                         |                       |
| Pruning Knife                                    | 2                         |                       |
| Rotary Duster                                    | 1                         |                       |
| Grafting Tool                                    | 1                         |                       |
| Knapsack Sprayer, 3 gallon                       | 1                         |                       |
| Show Halter - dairy                              |                           |                       |
| Junior Calf 12"                                  | 1                         |                       |
| Cow 18"  | 1                         |                       |
| Show Halter - beef                               |                           |                       |
| Calf Size  | 1                         |                       |
| Yearling Size                                    | 1                         |                       |
| Cow Size   | 1                         |                       |
| Show Whip, 6 ft.                                 | 1                         |                       |
| Show Sticks                                      | 2                         |                       |
| Portable Show Pens (to be made locally)          | 2                         |                       |
| Gates for penning livestock (to be made locally) | 8                         |                       |

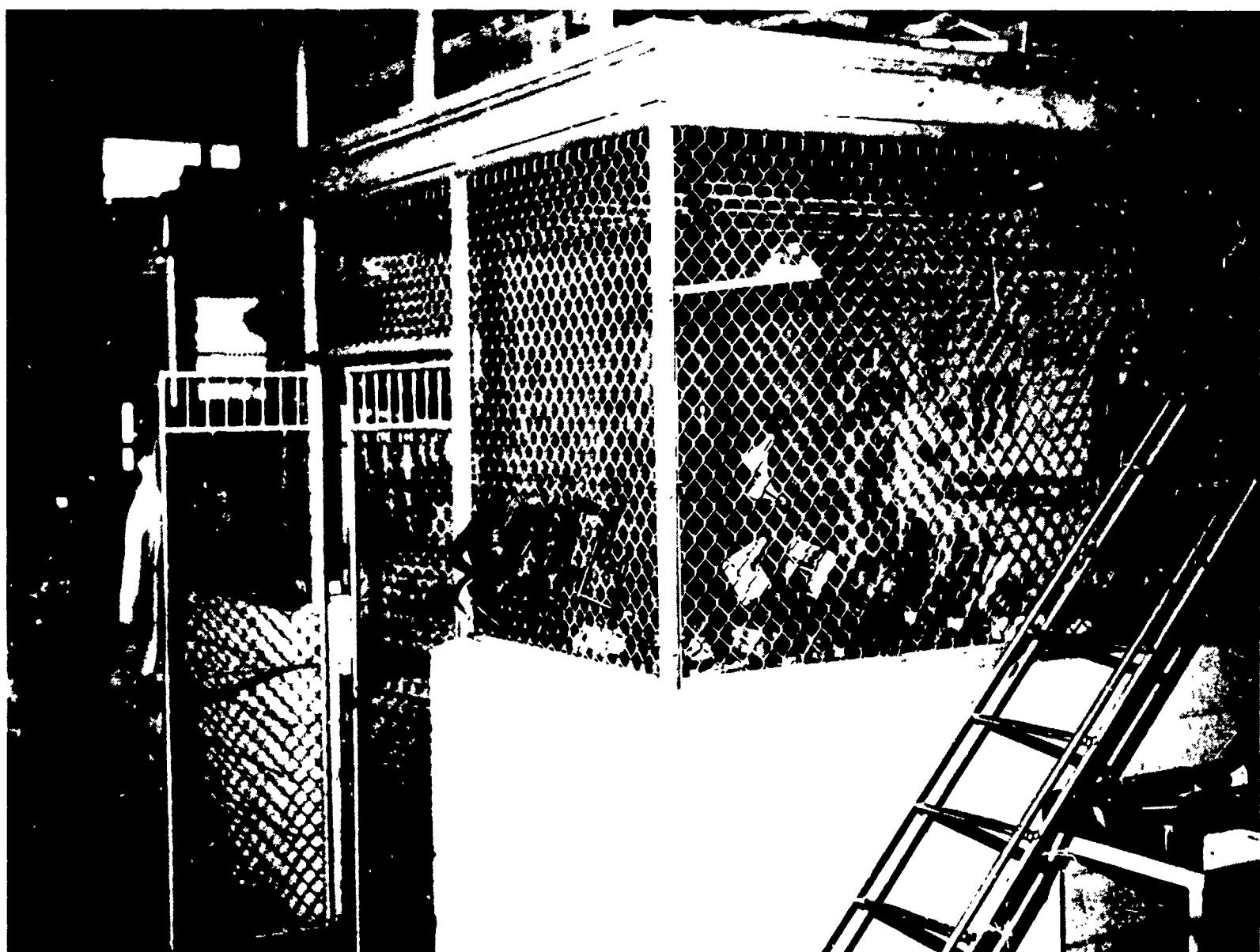
## SUPPLIES FOR AGRICULTURAL SCIENCE CLASSES

|  | <u>Number Recommended</u> | <u>Number On Hand</u> |
|--|---------------------------|-----------------------|
| <b>Mimeograph Stencils (1 quire)</b>   | 1                         |                       |
| <b>Mimeograph Paper, 16 lb. (carton, 10 reams)</b>                           | 1                         |                       |
| <b>Roll Acetate Film, 30 ft. (for overhead projector)</b>                    | 1                         |                       |
| <b>Kit of Materials for making transparencies</b>                            | 1                         |                       |
| <b>Flannel Board Alpha set</b>   | 1                         |                       |
| <b>Stencils for Spirit Duplicator (100 in box)</b>                           | 1                         |                       |
| <b>Paper for Spirit Duplicator (carton, 10 reams)</b>                        |                           |                       |
| 16 lbs.  | 1                         |                       |
| <b>Spirit Duplicating Fluid (gal.)</b>                                       | 1                         |                       |
| <b>Newsprint Pad (18" x 24"), (500 sheets)</b>                               | 1                         |                       |
| <b>Marking Pens - felt tipped - set of all colors</b>                        |                           | 1 set                 |
| <b>Slides and film strips - as needed and available</b>                      |                           |                       |
| <b>Cocanut Oil Shampoo, gallon</b>   | 1                         |                       |
| <b>Dressing Oil, gallon</b>  | 1                         |                       |
| <b>Samples of:</b>   |                           |                       |
| <b>Commercial feeds</b>  |                           |                       |
| <b>Grit and Oyster shells</b>  |                           |                       |
| <b>Egg Cartons</b>   |                           |                       |
| <b>Leg Bands</b>   |                           |                       |
| <b>Glass substitutes</b>   |                           |                       |
| <b>Insulating Materials</b>  |                           |                       |
| <b>Hardware Cloth</b>  |                           |                       |
| <b>Infra-red Bulbs</b>   |                           |                       |
| <b>Poultry Drugs</b>   |                           |                       |
| <b>Internal Parasites</b>  |                           |                       |
| <b>Samples of:</b>   |                           |                       |
| <b>Disease, parasite and fly</b>   |                           |                       |
| <b>Control Chemicals for Cattle</b>  |                           |                       |
| <b>Samples of:</b>   |                           |                       |
| <b>Standard Control remedies of internal and external parasites of sheep</b> |                           |                       |
| <b>Specimens of internal and external parasites</b>                          |                           |                       |
| <b>Samples of wool grades</b>  |                           |                       |
| <b>Hog rings, box</b>  | 1                         |                       |
| <b>Worm capsules, swine, box</b>   | 1                         |                       |
| <b>Stockinette, roll</b>   | 1                         |                       |
| <b>Samples of:</b>   |                           |                       |
| <b>Control remedies for internal and external parasites of swine</b>         |                           |                       |
| <b>Samples of:</b>   |                           |                       |
| <b>Meat Curing ingredients</b>   |                           |                       |
| <b>Refill for soil testing kit</b>   |                           |                       |
| <b>Samples of commercial fertilizer</b>                                      |                           |                       |
| <b>Samples of lime</b>   |                           |                       |
| <b>Soil samples</b>  |                           |                       |
| <b>Tree Paint, gallon</b>  | 1                         |                       |
| <b>Grafting Wax, 1 lb.</b>   | 1                         |                       |
| <b>Grafting Thread, 8 oz. spool</b>  | 1                         |                       |
| <b>Samples of insect and disease</b>   |                           |                       |
| <b>Control Chemicals for fruit trees</b>                                     |                           |                       |

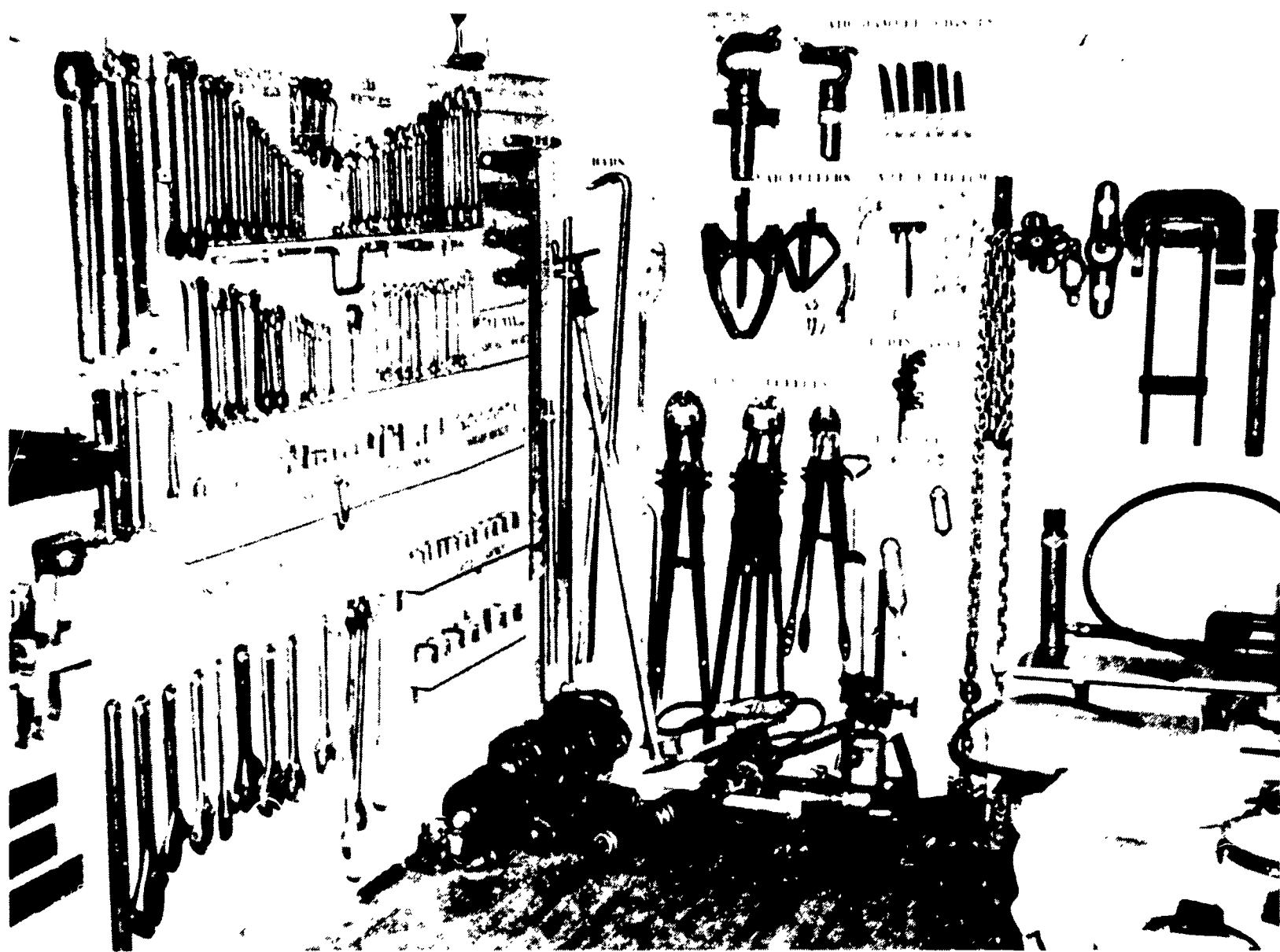
# AGR. MECHANICS SHOP



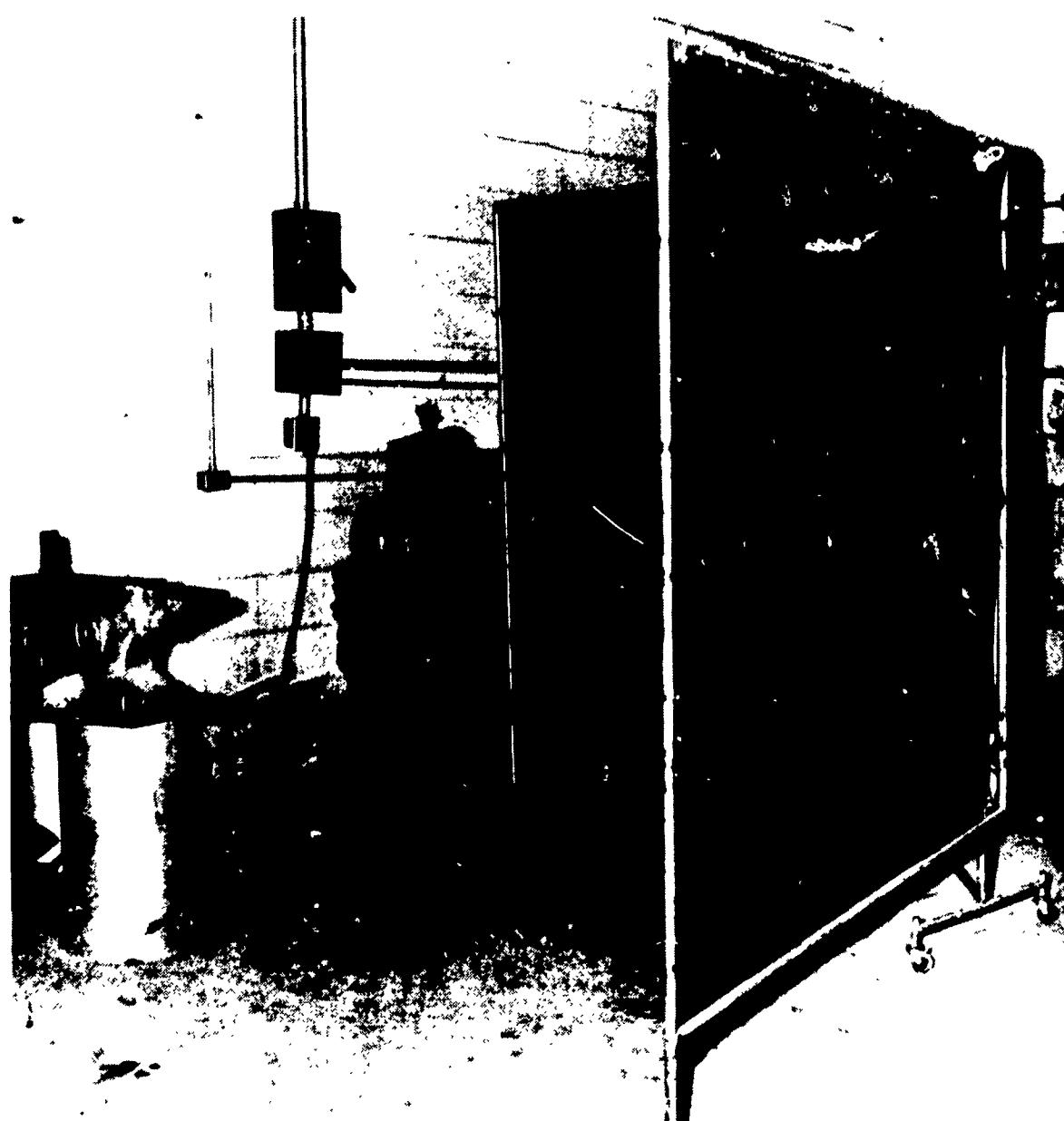
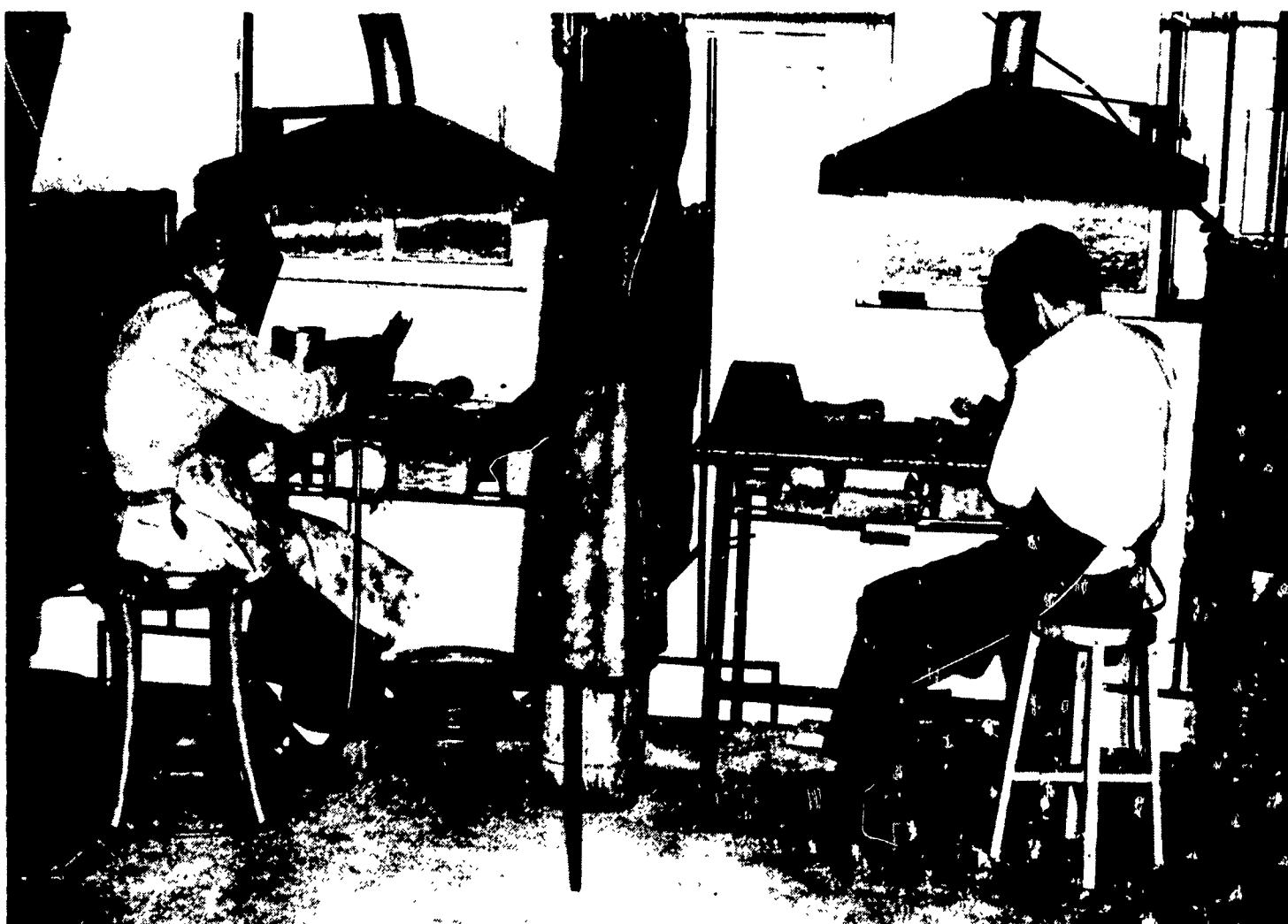
## TOOL ROOM



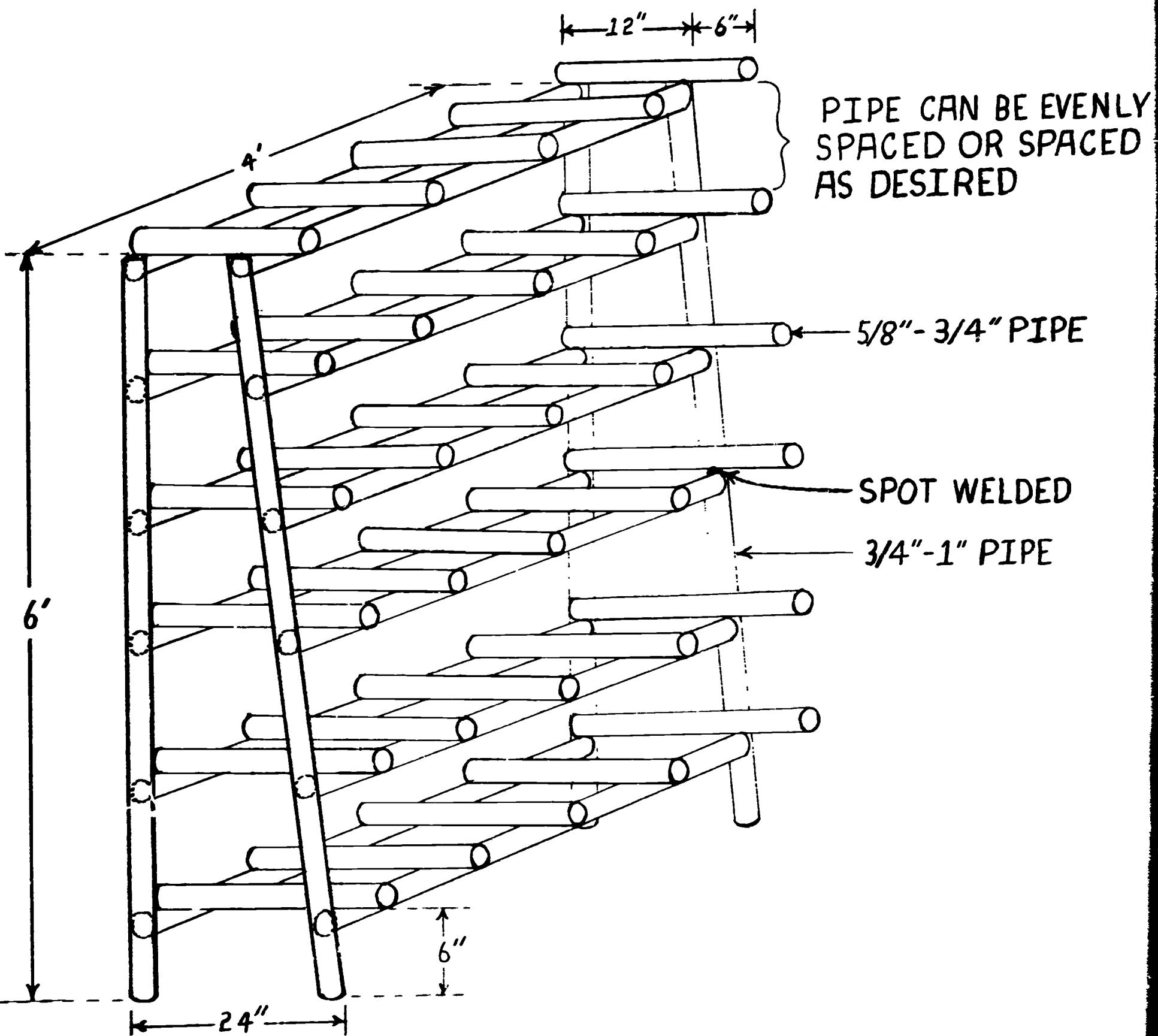
# TOOL ROOM ARRANGEMENT



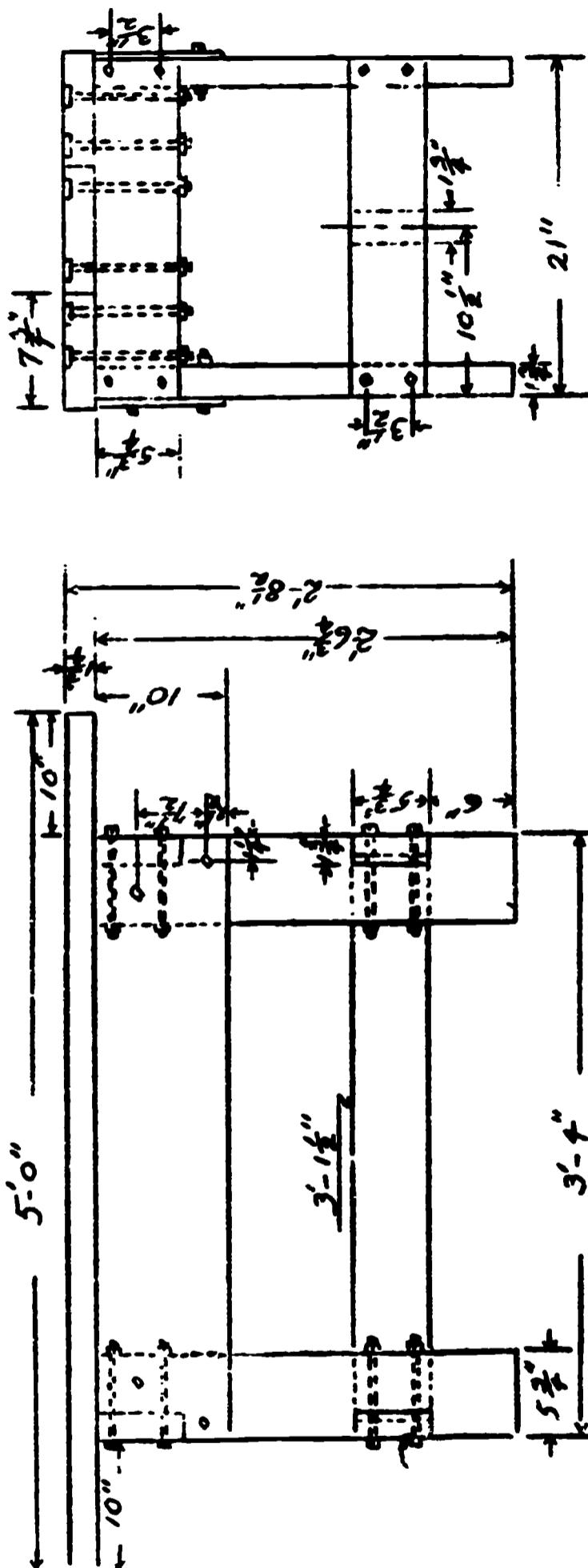
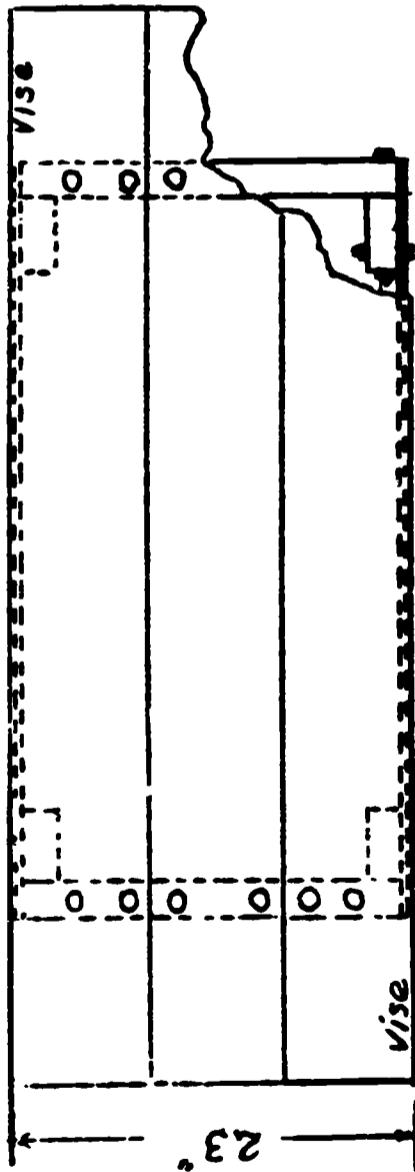
# Welding Booths



# METAL STORAGE RACK



# WOODWORKING BENCH



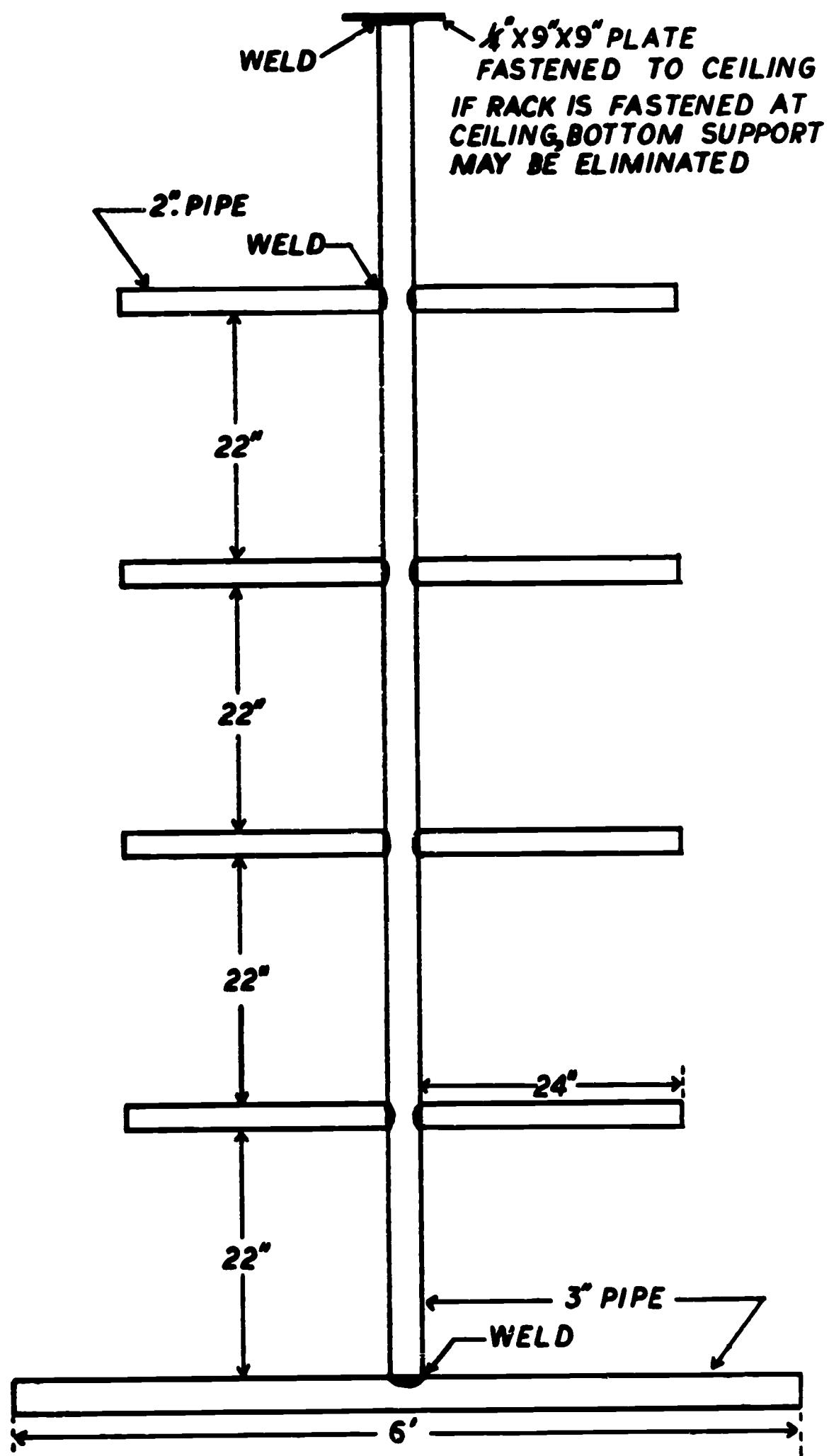
## Bill of materials

| <u>Number</u> | <u>Pieces</u> | <u>Dimensions</u>     | <u>Material</u>         |
|---------------|---------------|-----------------------|-------------------------|
| 3             | pieces        | 2" x 6" x 5'          | top (hardwood)          |
| 4             | "             | 2" x 6" x 2" - 6 3/4" | Legs (softwood)         |
| 4             | "             | 2" x 6" x 21"         | End braces (softwood)   |
| 1             | "             | 2" x 6" x 3 1/2"      | Center brace (softwood) |
| 2             | "             | 1" x 10" x 3 1/4"     | Aprons (softwood)       |

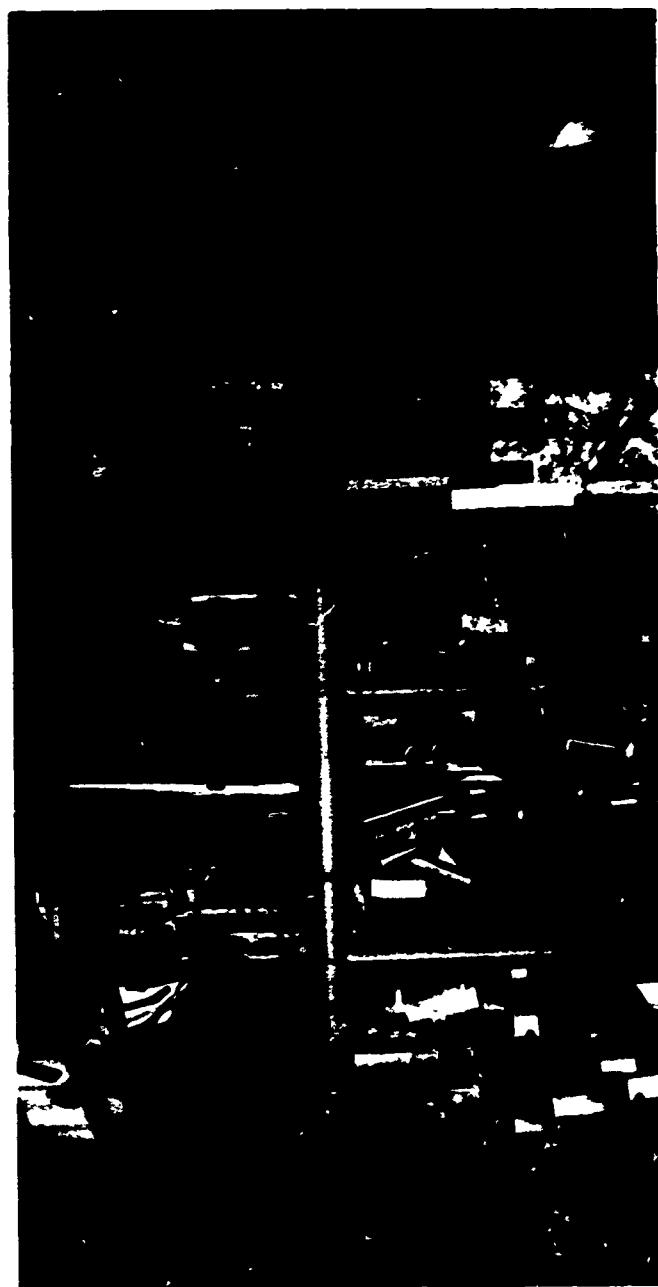
## Hardware

- 12 Carriage bolts, 3/8" x 7 1/2", with washers - to bolt table top to end braces.
- 16 Machine bolts, 3/8" x 6 1/2", with washers - to bolt end braces to legs.
- 8 Carriage bolts, 3/8" x 3", with washers - to bolt apron to legs.
- 4 Lag screws, 1/2" x 3", to fasten center brace to lower end braces.

# LUMBER STORAGE RACK



END VIEW  
USE FIVE SUPPORTS WITH A SPACING OF 3', 4', 4', & 3'



**TOOLS AND EQUIPMENT**  
**FOR AGRICULTURAL MECHANICS**

The following list of tools and equipment is a recommended standard for all departments of vocational agriculture. Departments with a larger number of students may need to increase the number of tools in the various areas of Agricultural Mechanics work.

**1. GENERAL**

| <u>Name of Tool</u> | <u>Size and/or Description</u>  | <u>Number on Hand</u> |
|---------------------|---|-----------------------|
| First Aid Kit       | Of sufficient size to contain an adequate supply of first aid material . . . . .    | 1                     |
| Fire Extinguisher   | Carbon dioxide type (used on oil, etc.)   | 1                     |
| Fire Extinguisher   | 5 lb. size . . . . .  | 1                     |
| Fire Extinguisher   | 2-1/2 gallon Soda-Acid type (used on wood, paper, and textile fires) . . . . .      | 1                     |
| Fire Blanket        | Complete with case . . . . .  | 1                     |
| Metal Work Bench    | 6' x 34" x 32", 2" steel tops . . . . .   | 2                     |
| Stencil Brushes     | One 1", one 1-3/8" . . . . .  | 2                     |
| Adjustable Stencils | 1" and 2" letters . . . . .   | 2 sets                |
| Adjustable Stencils | 1" and 2" figures . . . . .   | 2 sets                |
| Work Benches        | 2' x 5', shop made . . . . .  | 6                     |
| Steel Stamps        | 1/4" mounted in wood blocks, letters and figures . . . . .                          | 1                     |
| Steel Parts Bins    | 87" x 36" x 12", 6 openings 6" wide x 13-1/2" high, 72 openings 6" wide x 6" high . | 2                     |
| Shop Desk           | Standing type with lock . . . . .   | 1                     |

**2. FARM SHOP WORK**

|                       |  |       |
|-----------------------|--|-------|
| Planer                | 12"-16", 3 phase, 3 h.p. motor . . . . .   | 1     |
| Radial Arm Saw        | 12", 3 phase, 2-3 h.p. motor, with accessories . . . . .   | 1     |
| Tilting Arbor Saw     | 10", 3 phase, 3/4 h.p. motor with accessories . . . . .  | 1     |
| Dado Head             | 8", 1/8"-1-1/16", arbor size to fit saw . .  | 1 set |
| Jointer               | 6", 3 phase . . . . .  | 1     |
| Portable Electric Saw | 7" heavy duty, 9-12 amps . . . . .   | 1     |
| Drill Press           | Standard floor model, 15", 6" spindle travel with spring return, speed 400 to 4800 R.P.M., 0-1/2" key chuck, 1/2 h.p. motor, 3 phase . . . . . | 1     |
| Drill                 | Portable electric, 1/2" capacity, heavy duty, Jacobs Chuck . . . . .   | 1     |
| Drill                 | Portable electric, 1/4" capacity, Jacobs Chuck   | 2     |
| Grinder               | Bench type, 3-phase, 1/2 h.p., 7" x 1" wheels, illuminated eye shields, 1725 R.P.M.  | 1     |
| Grinder               | Pedestal, heavy duty, 3-phase, 1 h.p., 1725 R.P.M., 7/8" spindle, 10" x 1-1/4" wheels, illuminated eye shields . . . . .                       | 1     |
| Power Hack Saw        | 1/3 h.p., 3-phase, floor model, 5" x 5" capacity . . . . .   | 1     |
| Portable Sander       | 3" x 24" belt, complete with dust collecting bag . . . . .   | 1     |

| <u>Name of Tool</u>        | <u>Size and/or Description</u>   | <u>Number</u> | <u>Number on Hand</u> |
|----------------------------|--|---------------|-----------------------|
| Grindstone                 | 2" x 20" stone, power driven, 1/4 h.p. motor, single phase . . . . .   | 1             |                       |
| Band saw                   | 16" metal-wood, 1/2 h.p., 3-phase  | 1             |                       |
| Wood Lathe                 | 12", 1/2 h.p., 3-phase, variable speed . . . . .   | 1             |                       |
| Air and Propane Torch      | Low pressure mixer, trigger control, adjustable pilot light and needle valve, hose and adapters, with 20# l.p. cylinders . . . . . | 1             |                       |
| Anvil                      | 125 lbs., 1/2' steel face with tempered edges, 3/4" hardy hole, size of face: 3-3/4" x 14-1/2" . . . . .                           | 1             |                       |
| Anvil Stand                | Shop made . . . . .  | 1             |                       |
| Hardies                    | 3/4" shank, 2-1/4" width . . . . .   | 1             |                       |
| Cold Cutter                | Handled 1-1/2" . . . . .   | 1             |                       |
| Blacksmith's Sledge        | 8 lb. double face . . . . .  | 1             |                       |
| Tongs, Curved Lip or Bolt  | 1/2" and 3/4" . . . . .  | 4             |                       |
| Tongs, Straight Lip        | 18" x 1/4", 18" x 3/8", and 20" x 1/2" . . . . .   | 3             |                       |
| Machinist's Vise           | 3-1/2", 4-1/2", 6", 8" jaws . . .  | 4             |                       |
| Drill Press Vise           | 6" . . . . .   | 1             |                       |
| Engineer's Hammer          | 2-1/2 lbs., Double face . . . . .  | 1             |                       |
| Blacksmiths' Hammers       | One 2 lb., one 3 lb. . . . .   | 2             |                       |
| Rawhide Hammer             | 2-7/8 lbs. . . . .   | 2             |                       |
| Machinists Riveting Hammer | 12 oz. . . . .   | 1             |                       |
| Ball Pein Hammers          | 1/2, 1 and 1-1/2 lbs. . . . .  | 6             |                       |
| Bolt Cutters               | 1/4" and 1/2" capacity . . . . .   | 2             |                       |
| Cape Chisels               | 1/4", 3/8", 1/2" cutting edge . .  | 6             |                       |
| Cold Chisels               | Two 1/2", two 5/8", two 3/4", two 1" . . . . .   | 8             |                       |
| Center Punches             | Two 3/8", two 1/2" . . . . .   | 4             |                       |
| Hacksaw Frames, Adjustable | Heavy duty, tubular cast aluminum handle . . . . .   | 4             |                       |
| Files                      | 12" double cut flat bastard . . .  | 2             |                       |
| Files                      | 8", 10" flat mill bastard . . .  | 4             |                       |
| Files                      | 8", 10" double cut flat smooth . .   | 4             |                       |
| Files                      | 8", half round bastards . . . . .  | 2             |                       |
| Drills, High Speed         | 1/16" to 1/2" . . . . .  | 2 sets        |                       |
| Drills, Low Speed          | 1/2" to 1" to fit 1/2" chuck . . .   | 1 set         |                       |
| Outside Caliper            | 6", adjustable firm joint . . . . .  | 1             |                       |
| Inside Caliper             | 6", adjustable firm joint . . . . .  | 1             |                       |
| Screw Plate                | N.C. sizes, 1/4" to 3/4" . . . . .   | 1 set         |                       |
| Screw Plate                | N.F. sizes, 1/4" to 3/4" . . . . .   | 1 set         |                       |
| Countersink                | Metal type 1/2" and 3/4" . . . . .   | 2             |                       |
| Pin Punches                | Pin 1/8", 3/16", 1/4", 5/16", at point . . . . .   | 4             |                       |
| Drift Punches              | 1/8", 3/16", 1/4", 3/8" at point, 12" length . . . . .   | 4             |                       |
| Steel Rules                | 24" x 1", 1/4" and 1/8" graduations  | 2             |                       |
| Steel Rules                | 6" with graduations in 1/64's . .  | 2             |                       |
| Brush, Wire Wheel          | 3/4" x 6" . . . . .  | 1             |                       |
| Scratch-alls               | . . . . .  | 6             |                       |
| Screw Extractors           | Sizes 1, 2, 3, 4, 5, 6 with straight shank drill to match, complete . .  | 1 set         |                       |

| <u>Name of Tool</u>                | <u>Size and/or Description</u>   | <u>Number</u> | <u>Number on Hand</u> |
|------------------------------------|--|---------------|-----------------------|
| Screw Pitch Gauge                  | 22 pitches, 9 through 40 . . . . .   | 1             |                       |
| Grinding Goggles                   | Plastic lenses . . . . .   | 4             |                       |
| Pliers                             | Combination slip joint 8" . . . . .  | 2             |                       |
| Pliers                             | Diagonal cutting, heavy duty, 4-1/2" and 6" . . . . .  | 2             |                       |
| Vise-grips                         | 7" - 10" . . . . .   | 2             |                       |
| Forge Furnace                      | Power blower, gas fired, input 200,000 B.T.U. with safety system . . . . .   | 1             |                       |
| Putty Knives                       | 3-3/4" x 1-1/2" blade flexible . . . . .   | 4             |                       |
| Paint Scraper                      | 3" blade . . . . .   | 2             |                       |
| Glass Cutters                      | Single wheel . . . . .   | 5             |                       |
| Glass Cutter                       | Turret head . . . . .  | 1             |                       |
| Circular Glass Cutter              | 2" to 12" . . . . .  | 1             |                       |
| Wire Brushes                       | 2-1/4" x 7-1/2" block . . . . .  | 2             |                       |
| Pipe Vise                          | 1/8" to 2-1/2" . . . . .   | 1             |                       |
| Pipe Cutter                        | 1/8" to 2" . . . . .   | 1             |                       |
| Pipe Dies and Ratchet              | 1/8" to 1" . . . . .   | 1             | set                   |
| Reamer, Burring                    | 1/4" - 2", 1/2" round shank . . . . .  | 1             |                       |
| Pipe Wrenches                      | 6", 8", 10", 12", 14", 18", 24" . . . . .  | 7             |                       |
| Torch                              | Acetylene-air . . . . .  | 1             |                       |
| Bench Gas Furnace                  | Double burner . . . . .  | 1             |                       |
| Soldering Coppers                  | Two-1/2 lb., two-1 lb., two - 1-1/2 lb.  | 6             |                       |
| Soldering Copper Handles           | 1-3/8" x 5-1/2" . . . . .  | 12            |                       |
| Tinners' Snips                     | 13" combination . . . . .  | 2             |                       |
| Tinners' Snips                     | Aviation straight and combination . . .  | 2             |                       |
| Tinners' Riveting Hammers          | 12 oz. . . . .   | 2             |                       |
| Rivet Sets                         | Sizes 1, 3, 5, 7 . . . . .   | 4             |                       |
| Tinners' Mallets                   | 2-1/2" x 4-1/2", composition . . . . .   | 2             |                       |
| Soldering Gun                      | 250 watts . . . . .  | 1             |                       |
| Arc Welders                        | 225 amps, 230 or 208 volts, 40 output, 225 amps, complete with accessories, cables, holders, clamps, plugs, and receptacle . . . . . | 2             |                       |
| Welding Helmets                    | No. 10 lens, flip front . . . . .  | 4             |                       |
| Combination Wire Brush and Scraper | 1-1/2" x 11" . . . . .   | 2             |                       |
| Chipping Hammers                   | . . . . .  | 2             |                       |
| Arc Welding Tables                 | Shop made . . . . .  | 2             |                       |
| Electrode Holders                  | Shop made . . . . .  | 2             |                       |
| Welding Hand Shields               | No. 10 lens . . . . .  | 6             |                       |
| Carbon Arc Torch                   | For at least 3/8" carbons . . . . .  | 1             |                       |
| Welding Clamps                     | Vise-grip . . . . .  | 2             |                       |
| Oxygen Regulator                   | Single stage . . . . .   | 1             |                       |
| Acetylene Regulator                | Single stage . . . . .   | 1             |                       |
| Heavy Duty Welding Torch           | . . . . .  | 1             |                       |
| Welding Tip Assemblies             | Sizes 1, 3, 5, 7, 9, each tip equipped with mixer . . . . .  | 1             |                       |
| Cutting Torch                      | Complete 75° head, one light and one medium tip . . . . .  | 1             |                       |
| Twin Hose                          | 1/4", with fittings, 25' long . . . . .  | 1             |                       |
| Tank, Torch and Regulator Wrenches | . . . . .  | 2             |                       |

| <u>Name of Tool</u>         | <u>Size and/or Description</u>   | <u>Number</u> | <u>Number on Hand</u> |
|-----------------------------|--|---------------|-----------------------|
| Face Shields                | Shade #4 green, cellulose acetate windows, overhead spring flex bands . . . .  | 2             |                       |
| Goggles                     | #4 lenses, extra wide, to fit over any size prescription glasses . . . . .     | 2             |                       |
| Tip Cleaners                | . . . . .  | 1             |                       |
| Cylinder Truck              | . . . . .  | 1             |                       |
| Spark Lighters              | . . . . .  | 2             |                       |
| Oxy-Acetylene Welding Table | Shop made . . . . .  | 1             |                       |
| Braces                      | Two 8" and two 10" ratchet ball bearing universal jaws . . . . .               | 4             |                       |
| Breast Drill                | 2 speed, 3-jaw chuck, capacity 1/2" . .  | 2             |                       |
| Wood Auger Bits             | 1/4" to 1" by 16ths . . . . .  | 1 set         |                       |
| Machine Wood Bits           | 4" twist, sizes 1/4" to 1" by 16ths, brad point . . . . .                      | 1 set         |                       |
| Counter Sinks               | 1/4" round shank, 1/2" cutting edge . .  | 4             |                       |
| Push Drill                  | With drill points, 1/16" to 11/64" . . .                                       | 1             |                       |
| Bit Extension               | 18". . . . .   | 1             |                       |
| Hand Drills                 | Heavy duty, capacity to 3/8" . . . . .   | 2             |                       |
| Screwdriver Bits            | 1/4", 5/16", 3/8", 1/2" . . . . .  | 4             |                       |
| Expansion Bit               | 7/8" to 3", 2 cutters . . . . .  | 1             |                       |
| Bit Stock Twist Drills      | 1/16" to 1/2" x 16ths . . . . .  | 1 set         |                       |
| Counter Sinks               | Brace type, 3/4" cutting edge . . . . .  | 2             |                       |
| Wood Chisels                | 1/4", 1/2", 3/4", 1" . . . . .   | 4             |                       |
| "I-Bar" Clamps              | Three 3', three 5' . . . . .   | 6             |                       |
| Hand Screws                 | Two 6", two 8-1/2", two 12" . . . . .  | 6             |                       |
| C-clamps                    | Two 3", two 5", two 7", two 10" . . . . .                                      | 8             |                       |
| Mitre and Corner Clamp      | 3" . . . . .   | 4             |                       |
| Half Round Cabinet Files    | 10". . . . .   | 2             |                       |
| Flet Wood Files             | 12". . . . .   | 2             |                       |
| Extra Slim Taper Files      | 5-1/2" . . . . .   | 6             |                       |
| Slim Taper Files            | 6" . . . . .   | 8             |                       |
| Auger Bit Files             | 7" . . . . .   | 2             |                       |
| Wood Rasps                  | 10" half round, bastard cut . . . . .  | 2             |                       |
| File Cards                  | 1-1/2" x 5". . . . .   | 2             |                       |
| Assorted File Handles       | Sizes 0" to 4" . . . . .   | 18            |                       |
| Wood Rasps                  | 8", 12", round . . . . .   | 2             |                       |
| Nail Hammers                | 16 oz. curved claw, chrome alloy, handled, neoprene grip . . . . .             | 6             |                       |
| Nail Hammers                | 20 oz. curved claw . . . . .   | 2             |                       |
| Ripping Hammers             | 16 oz. straight claw, octagon neck, finished . . . . .                         | 2             |                       |
| Hatchet                     | 3-1/4" cut, medium weight . . . . .  | 1             |                       |
| Tack Hammer                 | Magnetic . . . . .   | 1             |                       |
| Combination Squares         | 12" grooved blade, level glass . . . . .                                       | 4             |                       |
| Steel Squares               | 12", body 12" x 1-1/2", tongue 8" x 1" .                                       | 3             |                       |
| Framing Squares             | 16" x 24" - blued-rafter, brace, octagon and essex tables . . . . .            | 2             |                       |
| Try Squares                 | 8" iron handles . . . . .  | 4             |                       |
| Sliding T-bevels            | 8" iron handles . . . . .  | 2             |                       |
| Steel Tape                  | 100' metallic, 3/8" wide, with case . .  | 1             |                       |
| Carpenters level            | 24" - aluminum, 2-1/2" x 1", 2 plumbs, 2 levels, nonadjustable glasses . . . . | 1             |                       |
| Level                       | 9" aluminum torpedo . . . . .  | 1             |                       |

| <u>Name of Tool</u>                       | <u>Size and/or Description</u>  | <u>Number</u> | <u>Number on Hand</u> |
|---|---|---------------|-----------------------|
| Wing Divider                              | 6" adjustable leg, pencil clamp and<br>8" adjustable leg, pencil clamp . . . . .                        | 2             |                       |
| Trammel Points                            | Adjustable, pencil sockets . . . . .  | 1 pr.         |                       |
| Steel Tapes                               | 6' steel pocket tapes . . . . .   | 4             |                       |
| Yard Sticks                               | • • • • • • • • • • • • • • •   | 2             |                       |
| Folding Rules                             | Wood, 6' . . . . .  | 4             |                       |
| Jack Planes                               | 14", 2" cutter . . . . .  | 4             |                       |
| Smoothing Plane                           | 9", 2" cutter . . . . .   | 2             |                       |
| Block Planes                              | 6", 1-5/8" cutter-end, side and throat adjustment . . . . .   | 4             |                       |
| Draw Knife                                | 10" . . . . .   | 2             |                       |
| Crosscut Saws                             | Three 22" - 10 point, two 26" - 8 point<br>curved back . . . . .  | 5             |                       |
| Ripsaws                                   | 26" - 5-1/2 point . . . . .   | 3             |                       |
| Mitre Box                                 | All metal with 28" back saw . . . . .   | 1             |                       |
| Coping Saw                                | 6-1/2" blade . . . . .  | 3             |                       |
| Back Saw                                  | 12" blade . . . . .   | 2             |                       |
| Nest of Saws                              | 3 blades - keyhole, compass, plumbers<br>pistol grip . . . . .  | 1             |                       |
| Filing Guide and Clamp                    | 9-1/2" jaws . . . . .   | 1             |                       |
| Saw Clamp                                 | 9-1/2" jaws . . . . .   | 1             |                       |
| Saw Clamp                                 | Shop made . . . . .   | 1             |                       |
| Saw Gummer Wheel                          | 6" . . . . .  | 1             |                       |
| Screwdrivers                              | Two 1", two 3", two 4", two 6", two 8",<br>two 12", plastic handles . . . . .                           | 12            |                       |
| Philips Screwdrivers                      | 2 each - Sizes 1, 2, 3, 4 . . . . .   | 8             |                       |
| Off-set Screwdriver                       | 1-3", 1-6" . . . . .  | 2             |                       |
| Saw Horses                                | Shop made . . . . .   | 6             |                       |
| Woodworkers' Vises                        | 4" x 10" continuous screw, steel handle .   | 6             |                       |
| Marking Gauge                             | Adjustable 6-1/2" . . . . .   | 2             |                       |
| Wrecking Bars                             | 5/8" x 18", 3/4" x 30", tool steel . . .  | 2             |                       |
| Combination Oil Stones                    | 6" x 2" x 1" one side coarse, one side<br>fine . . . . .  | 2             |                       |
| Slip Stones                               | Medium and fine 4-1/2" x 3/8" x 1/8" . .  | 2             |                       |
| Grinding Wheel Dresser                    | One No. 1, 1-1/2" cutter - one No. 2, 2-<br>3/8" cutter, corrugated type . . . . .                      | 2             |                       |
| Extra Grinding Wheel                      | 3 each size . . . . .   | 6             |                       |
| Dresser Cutters                           | 2-1/2" blade, length 12-1/2" . . . . .  | 2             |                       |
| Cabinet Scraper                           | 1 dozen assortment 1/32" to 1/8" . . . .  | 1 set         |                       |
| Nail Sets                                 | 3" x 5" head . . . . .  | 2             |                       |
| Carpenter's Mallet                        | • • • • • . . . . .   | 6             |                       |
| Bench Stops                               | • • • • • . . . . .   | 1             |                       |
| Nail Puller                               | Heavy duty, 2.5-3 amps . . . . .  | 1             |                       |
| Sabre Saw                                 | 8 tools . . . . .   | 1 set         |                       |
| Wood Turning Tools                        | Includes hose, pressure regulator and<br>gauge, spray gun, extractor and air dust-<br>ing gun . . . . . |               |                       |
| Paint Spray Outfit                        | • • • • • . . . . .   | 1             |                       |
| "Pop" Riveter and<br>Assortment of Rivets | • • • • • . . . . .   | 1             |                       |

### 3. FARM POWER AND MACHINERY

Air Compressor      3-phase, 1/2 h.p., single stage, 100 lbs.  
P.S.I., 30 gallon tank, including hose,

| <u>Name of Tool</u>               | <u>Size and/or Description</u>   | <u>Number on Hand</u> |
|-----------------------------------|--|-----------------------|
| Air Compressor contd.             | tire chuck and air nozzle . . . . .  | 1                     |
| Portable Electric Grinder         | Wheel size 5" x 3/4", adjustable steel guard . . . . .   | 1                     |
| Electric Hoist                    | 1 ton capacity, 3/4 h.p. . . . .   | 1                     |
| Bench Oilers                      | 6 . . . . .  | 6                     |
| Cans, Solvent Storage             | 2 . . . . .  | 2                     |
| Wire Brush                        | 6 . . . . .  | 6                     |
| Solid Punches                     | 1/8", 3/16", 7/32", and 1/4", 3/8" points  |                       |
|                                   | 1/2" stock . . . . .   | 4                     |
| Line-up Punches                   | 3/16", 1/4" points - 12" long . . . . .  | 2                     |
| Line-up Punch                     | 3/16", 1/4" points - 18" long . . . . .  | 2                     |
| Farm Service Repair Block         | Replaces mower ledger plates, sections, etc. . . . .   | 1                     |
| Wheel and Gear Puller             | Medium two arm, reversible jaws, range 0" to 8" . . . . .                                      | 1                     |
| Wheel and Gear Puller             | Large three arm . . . . .  | 1                     |
| Trouble Lights                    | Waterproof, 2-50' cords, 2-25' cords. . . . .  | 4                     |
| Midget Socket Set                 | 11 piece set - 7/32" to 7/16" - 1/4" drive with case . . . . .                                 | 1 set                 |
| Socket Wrench Set                 | 12 points, 16 piece set, 7/16" to 1", 1/2" square drive . . . . .                              | 1 set                 |
| Box End Wrenches                  | Set of 6, size 3/8" to 1" . . . . .  | 1 set                 |
| Combination Wrenches              | 10 piece set, sizes 3/8" to 1" . . . . .   | 1 set                 |
| Open End Adjustable               | One 4", two 6", two 8", one 10", two 12", two 16", one 18" . . . . .                           | 11                    |
| Set Screw Wrench Set              | 11 hex. keys, fits set screw, sizes #4, to #10, and 1/4", 5/16", 3/8", 7/16" to 1/2" . . . . . | 1 set                 |
| Tappet Wrenches                   | Set of 6, 7/16" to 13/16" . . . . .  | 1 set                 |
| Midget Ignition Wrenches          | 8 piece combination 13/64" to 7/16" . . . . .  | 1                     |
| Pressure Grease Gun               | 1 lb. heavy duty lever gun . . . . .   | 1                     |
| Piston Ring Compressors           | Racheting 2-1/8" to 5" and 3-1/2" to 7" . . . . .  | 2                     |
| Plastic Hammer                    | Replaceable tips; head 7/8", 1-3/8" and 1-5/8". . . . .  | 3                     |
| Thickness Gauge                   | Eight leaves, .002 to .015 . . . . .   | 1                     |
| Speed Indicator                   | Operates clockwise and counterclockwise . . . . .  | 1                     |
| Valve Lifters                     | One screw type valve lifter, one vertical type valve spring compressor. . . . .                | 2                     |
| Carbon Scraper                    | Flexible . . . . .   | 2                     |
| Jack                              | Hydraulic floor capacity 1-1/2 tons, lift 3-5/8" to 24". . . . .                               | 1                     |
| Mechanics Creeper                 | . . . . .  | 1                     |
| Deep Sockets or Spark             | 1/2" to 1-1/8", 12 piece set, 1/2" square drive . . . . .                                      | 1 set                 |
| Heavy Duty Sockets with Handles   | 1-1/16" to 2", 18 piece set, 3/4" square drive . . . . .                                       | 1 set                 |
| Torque Wrench                     | 0 to 150 foot-pounds, 3/8" square drive . . . . .  | 1                     |
| Torque Wrench                     | 0 to 200 foot-pounds, 1/2" square drive . . . . .  | 1                     |
| Battery Strap                     | . . . . .  | 1                     |
| Filler Can                        | Radiator . . . . .   | 1                     |
| All Purpose Farm and Utility Jack | 1-1/2 ton capacity, extends to 40". . . . .  | 1                     |
| Tubing Flaring Set                | 3/16" to 5/8" . . . . .  | 1                     |
| Tubing Cutter                     | Capacity to 1". . . . .  | 1                     |

| <u>Name of Tool</u>                | <u>Size and/or Description</u>                                | <u>Number</u> | <u>Number on Hand</u> |
|------------------------------------|---|---------------|-----------------------|
| Spark Plug Gap Wire Gauge          | .....   | 1             |                       |
| Battery Hydrometer                 | .....   | 1             |                       |
| Funnels                            | Assorted sizes.   | 4             |                       |
| Compression Tester                 | Plug in with long stem adapters                               | 1             |                       |
| Antifreeze Tester                  | For all types of antifreeze                                   | 1             |                       |
| Tire Gauge                         | For low pressure or liquid filled tires, 5 to 50 lbs.         | 1             |                       |
| Pliers                             | Water pump, 10"   | 1             |                       |
| Porto-power                        | 10 ton hydraulic unit, general maintenance assort., blackhawk | 1             |                       |
| Stock Carts                        | 36" x 24" x 32" high with shelf                               | 2             |                       |
| Tool Kits                          | For small gasoline engines, 1 Briggs & Stratton, 1 Clinton    | 2             |                       |
| Cell Tester                        | Battery   | 1             |                       |
| Combination Steam Washer & Cleaner | .....   | 1             |                       |
| Timing Light                       | .....   | 1             |                       |
| Coil-Condenser- Ignition Tester    | .....   | 1             |                       |
| Portable Disc Sander               | 7"  | 1             |                       |
| Adjustable Stands                  | 5 ton capacity  | 1 pr.         |                       |

#### 4. FARM BUILDINGS & OTHER STRUCTURES

|                        |                                    |   |
|------------------------|------------------------------------|---|
| Brick Trowel           | 11" blade                          | 1 |
| Plastering Trowel      | 11" blade finishing                | 1 |
| Pointing Trowel        | 2-3/4" x 6" steel blade            | 1 |
| Concrete Edger         | 2-3/4" x 5-3/4" rounded ends       | 1 |
| Concrete Jointer       | 3" x 6" rounded ends               | 1 |
| Concrete Floats        | 3/4" x 5" x 12", wood, shop made   | 2 |
| Fluted Rubbing Brick   | 1-1/2" x 3-1/2" x 8" with handle   | 1 |
| Long Handled Shovel    | Round point                        | 1 |
| Square Pointed Shovels | Polished                           | 2 |
| Brick Hammer           | 24 oz.                             | 1 |
| Brick Chisel           | 4/8" shank, 4" cutting edge        | 1 |
| Mortar Mixing Box      | Shop made                          | 1 |
| Gravel Screen          | 1/4" mesh, 3' x 5', shop made      | 1 |
| Buckets                | 12 quart, galvanized               | 3 |
| Level                  | 48" wood                           | 1 |
| Measuring Box          | Capacity 1 cubic foot, shop made   | 1 |
| Mortar Mixing Hoe      | 2 hold, steel blade, 5-1/2' handle | 1 |
| Star Drills            | 1/4", 3/8", 1/2", 5/8", 3/4".      | 5 |
| Masonry Drill Bits     | 1/4", 3/8", 1/2", 5/8", 3/4".      | 5 |
| Plumb Bob              | 9 oz.                              | 1 |
| Chalk Line             | Self chalking reel type, 100'      | 1 |

#### 5. FARM ELECTRIFICATION

|                              |               |   |
|------------------------------|---------------|---|
| Lineman's Side Cutter        | 7"            | 4 |
| Pliers                       | .....         |   |
| Long Nose Pliers             | 6"            | 2 |
| Diagonal Cutting Pliers      | 6"            | 2 |
| American Standard Wire Gauge | No.'s 5 to 36 | 1 |

| <u>Name of Tool</u>         | <u>Size and/or Description</u>  | <u>Number</u> | <u>Number on Hand</u> |
|-----------------------------|---|---------------|-----------------------|
| Electrician's Screw-drivers | One 3", two 6", one 10", small blade . . . plastic handle . . . . .                                     | 4             |                       |
| Ammeter                     | AC-DC range 0-50 amps . . . . .   | 1             |                       |
| Voltmeter                   | AC-DC range 0-300 volts . . . . .   | 1             |                       |
| Watt Hour Meter             | AC-DC range 0-1500, 0-3000 . . . . .  | 1             |                       |
| Circuit Testers             | 110 to 550 volts . . . . .  | 3             |                       |
| Electrician's Bits          | 1/2, 5/8, 3/4, 7/8 . . . . .  | 4             |                       |
| Cable Strippers             | For non-metallic cable, No.'s 6-14 wire   | 1             |                       |
| Wire Cutter and Crimpers    | Combination tool that cuts and strips common gauges of wire, and crimps solder-less terminals . . . . . | 1             |                       |
| Electric Soldering Iron     | 200 watts . . . . .   | 1             |                       |
| Electric Soldering Iron     | 300 watts, 7/8" tip . . . . .   | 1             |                       |

## 6. SOIL AND WATER MANAGEMENT

|                               |  |       |
|-------------------------------|--|-------|
| Convertible Level and Transit | Magnifying power 16 diameters min., focus 5 ft., graduated circle 4", fixed cross hairs with compass . . . . . | 1     |
| Rod and Target                | 9' graduated in feet and hundredths 100' with reel-graduated feet and inches . . .                             | 1     |
| Hand Levels                   | 5" brass . . . . .   | 2     |
| Marking Pins                  | 2" diameter top . . . . .  | 1 set |
| Abney Level                   | Arc scaled in terms of percentages of grade and degrees, complete with case . . .                              | 1     |

**SUPPLIES FOR AGRICULTURAL MECHANICS CLASSES**

|   | <u>Number Recommended</u> | <u>Number On Hand</u> |
|---|---------------------------|-----------------------|
| Cross Section Paper, 8 $\frac{1}{2}$ " x 11", 4 squares per inch  | 1 ream                    |                       |
| Cross Section Paper, 8 $\frac{1}{2}$ " x 11", 5 squares per inch  | 1 ream                    |                       |
| Cross Section Paper, 8 $\frac{1}{2}$ " x 11", 20 squares per inch | 1 ream                    |                       |
| Mechanical Drawing Paper, 18" x 24"                               | 2 reams                   |                       |
| Saber Saw Blades, assorted 3" and 4"                              | 2 dozen                   |                       |
| Coping Saw Blades, 6"   | 1 gross                   |                       |
| Hacksaw Blades, 12" x $\frac{1}{2}$ "                             | 2 dozen                   |                       |
| Paint Scraper Blades to fit scraper                               | 6                         |                       |
| Paint - Outside   |                           |                       |
| Red   | 2 gal.                    |                       |
| White   | 2 gal.                    |                       |
| Gray  | 2 gal.                    |                       |
| Paint and Varnish Remover   | 2 gal.                    |                       |
| Turpentine  | 1 gal.                    |                       |
| Linseed Oil   | 1 gal.                    |                       |
| Paint Thinner   | 2 gal.                    |                       |
| Lacquer Thinner   | 1 gal.                    |                       |
| Paint - Enamel  |                           |                       |
| Various Colors - 12, 1 qt. cans                                   | 3 gal.                    |                       |
| Varnish - 4, 1 qt. cans   | 1 gal.                    |                       |
| Lacquer - 4, 1 qt. cans   | 1 gal.                    |                       |
| Stain - 4, 1 qt. cans   | 1 gal.                    |                       |
| Paint Brush Cleaner   | 2 qts.                    |                       |
| Glaziers Points   | 1 box                     |                       |
| Glazing Compound - 1 lb. cans                                     | 4                         |                       |
| Solder, Acid core - 50/50   | 4 lb.                     |                       |
| Rosin core - 50/50  | 4 lb.                     |                       |
| Wire - 50/50  | 4 lb.                     |                       |
| Aluminum - Flex core  | 1 lb.                     |                       |
| Soldering Paste - 2 oz. can                                       | 4 cans                    |                       |
| Sal Ammoniac - 1/4 lb. bricks                                     | 1 lb.                     |                       |
| Soldering and Tinning Flux  | 1 gal.                    |                       |
| Cutting Oil   | 1 gal.                    |                       |
| Hide Glue   | 1 gal.                    |                       |
| Resin Glue  | 1 gal.                    |                       |
| Contact Cement  | 1 gal.                    |                       |
| Carpenters Pencils  | 1 dozen                   |                       |
| Soap Stone  | 1 dozen                   |                       |
| Penetrating Oil   | 2 qts.                    |                       |
| Lubricating Oil   | 2 qts.                    |                       |
| Machine Oil   | 1 qt.                     |                       |
| Graphite Lubricant  | 1 lb.                     |                       |
| Cup Grease  | 5 lbs.                    |                       |
| Wheel Bearing Grease  | 5 lbs.                    |                       |
| Dope Thread   | 1 lb.                     |                       |
| Gasket Material   | 2 sheets                  |                       |
| Striker Flints  | 1 dozen                   |                       |
| Carbon Rods 1/4"  | 25                        |                       |
| Carbon Rods 3/8"  | 25                        |                       |
| Arc Welding Electrodes, all purpose mild steel-<br>assorted sizes | 200 lb.                   |                       |

|  | <u>Number Recommended</u> | <u>Number On Hand</u> |
|--|---------------------------|-----------------------|
| Cast Iron Electrode                                | 50 lb.                    |                       |
| Hard Surfacing Rod                                 | 25 lb.                    |                       |
| All-Purpose Welding Rod                            | 100 lb.                   |                       |
| Cast Iron Rod                                      | 50 lb.                    |                       |
| Bronze Rod, 36" - assorted sizes                   | 100 lb.                   |                       |
| Brazing Flux                                       | 2 lb.                     |                       |
| Cast Iron Brazing Flux                             | 1 lb.                     |                       |
| Cast Iron Welding Flux                             | 1 lb.                     |                       |
| Aluminum Welding Flux                              | 1 lb.                     |                       |
| Oxygen   | 1 tank                    |                       |
| Paint Brushes, 2-2", 2-2½", 2-3", 2-4"             | 8                         |                       |
| Varnish Brushes, 3-1", 3-2"                        | 6                         |                       |
| Gloves - chrome tanned split cowhide, five fingers | 2 pr.                     |                       |
| Welding Gloves - asbestos or leather               | 4 pr.                     |                       |
| Acetylene  | 1 tank                    |                       |
| Tool Steel - round                                 |                           |                       |
| 5/16" x 10'  | 1                         |                       |
| 1/2" x 10'   | 1                         |                       |
| 5/8" x 10'   | 1                         |                       |
| Mild Steel - round                                 |                           |                       |
| 1/4" x 10'   | 1                         |                       |
| 3/8" x 10'   | 1                         |                       |
| 1/2" x 10'   | 1                         |                       |
| 5/8" x 10'   | 1                         |                       |
| 3/4" x 10'   | 1                         |                       |
| Mild Steel - flat                                  |                           |                       |
| 1/8" x 3/4" x 10'                                  | 1                         |                       |
| 1/8" x 1" x 10'                                    | 1                         |                       |
| 1/8" x 1½" x 10'                                   | 1                         |                       |
| 1/4" x 1" x 10'                                    | 1                         |                       |
| 1/4" x 1½" x 10'                                   | 1                         |                       |
| 1/4" x 1½" x 10'                                   | 1                         |                       |
| 3/16" x 1" x 10'                                   | 1                         |                       |
| 3/16" x 1½" x 10'                                  | 1                         |                       |
| 3/16" x 1½" x 10'                                  | 1                         |                       |
| Mild Steel - angle                                 |                           |                       |
| 1/8" x 1" x 1" x 10'                               | 1                         |                       |
| 1/8" x 1½" x 1½" x 10'                             | 1                         |                       |
| 3/16" x 1" x 1" x 10'                              | 1                         |                       |
| 3/16" x 1½" x 1½" x 10'                            | 1                         |                       |
| 3/16" x 2" x 2" x 10'                              | 1                         |                       |
| Nails - assorted sizes of common, box and finish   | 50 lb.                    |                       |
| Screws - wood                                      |                           |                       |
| flat head steel - 1/2" x 6                         | 1 gross                   |                       |
| 3/4" x 8   | 1 gross                   |                       |
| 1" x 8   | 1 gross                   |                       |
| 1½" x 10   | 1 gross                   |                       |
| 2" x 12  | 1 gross                   |                       |
| Screws - wood                                      |                           |                       |
| round head steel - 1/2" x 6                        | 1 gross                   |                       |
| 3/4" x 8   | 1 gross                   |                       |

|   | <u>Number Recommended</u> | <u>Number On Hand</u> |
|---|---------------------------|-----------------------|
| <b>Screws - wood</b>                      |                           |                       |
| <b>round head steel cont.</b>             |                           |                       |
| 1" x 8                                    | 1 gross                   |                       |
| 1 $\frac{1}{2}$ " x 10                    | 1 gross                   |                       |
| 2" x 12                                   | 1 gross                   |                       |
| <b>Screws - sheet metal</b>               |                           |                       |
| 1/4" x 6                                  | 1 gross                   |                       |
| 3/8" x 7                                  | 1 gross                   |                       |
| 1/2" x 8                                  | 1 gross                   |                       |
| 5/8" x 10                                 | 1 gross                   |                       |
| <b>Screws - wood</b>                      |                           |                       |
| <b>oval head steel -</b> 1/2" x 6         | 1 gross                   |                       |
| 5/8" x 6                                  | 1 gross                   |                       |
| 3/4" x 8                                  | 1 gross                   |                       |
| 7/8" x 8                                  | 1 gross                   |                       |
| 1" x 8                                    | 1 gross                   |                       |
| 1 $\frac{1}{2}$ " x 10                    | 1 gross                   |                       |
| <b>Bolts -</b>                            |                           |                       |
| <b>round head stove bolts</b> - 1/4" x 1" | 100                       |                       |
| 1/4" x 1 $\frac{1}{2}$ "                  | 100                       |                       |
| 1/4" x 2"                                 | 100 Do.                   |                       |
| 3/16" x 3/4"                              | 100                       |                       |
| 3/16" x 1"                                | 100                       |                       |
| 3/16" x 1 $\frac{1}{2}$ "                 | 100                       |                       |
| <b>Machine Bolts -</b>                    |                           |                       |
| 1/4" x 1"                                 | 100                       |                       |
| 1/4" x 1 $\frac{1}{2}$ "                  | 100                       |                       |
| 1/4" x 2"                                 | 100                       |                       |
| 1/4" x 3"                                 | 100                       |                       |
| 1/4" x 4"                                 | 100                       |                       |
| 5/16" x 1 $\frac{1}{2}$ "                 | 100                       |                       |
| 5/16" x 2"                                | 100                       |                       |
| 5/16" x 3"                                | 100                       |                       |
| 5/16" x 4"                                | 100                       |                       |
| 3/8" x 2 $\frac{1}{2}$ "                  | 100                       |                       |
| 3/8" x 3"                                 | 100                       |                       |
| 3/8" x 3 $\frac{1}{2}$ "                  | 100                       |                       |
| 3/8" x 4"                                 | 100                       |                       |
| 1/2" x 3"                                 | 100                       |                       |
| 1/2" x 3 $\frac{1}{2}$ "                  | 100                       |                       |
| 1/2" x 4"                                 | 100                       |                       |
| <b>Carriage Bolts -</b>                   |                           |                       |
| 1/4" x 1 $\frac{1}{2}$ "                  | 100                       |                       |
| 1/4" x 2"                                 | 100                       |                       |
| 1/4" x 3"                                 | 100                       |                       |
| 1/4" x 4"                                 | 100                       |                       |
| 1/4" x 4 $\frac{1}{2}$ "                  | 100                       |                       |
| 5/16" x 1 $\frac{1}{2}$ "                 | 100                       |                       |
| 5/16" x 2"                                | 100                       |                       |
| 5/16" x 3"                                | 100                       |                       |
| 5/16" x 4"                                | 100                       |                       |
| 3/8" x 2"                                 | 100                       |                       |
| 3/8" x 3"                                 | 100                       |                       |
| 3/8" x 4"                                 | 100                       |                       |

|                                       | <u>Number Recommended</u> | <u>Number On Hand</u> |
|---------------------------------------|---------------------------|-----------------------|
| <b>Carriage Bolts cont.</b>           |                           |                       |
| 1/2" x 2"                             | 100                       |                       |
| 1/2" x 3"                             | 100                       |                       |
| 1/2" x 4"                             | 100                       |                       |
| 1/2" x 5"                             | 100                       |                       |
| <b>Tinners Rivets -</b>               |                           |                       |
| tinned rivets                         |                           |                       |
| 1 lb. size                            | 1000                      |                       |
| 2 lb. size                            | 1000                      |                       |
| 3 lb. size                            | 1000                      |                       |
| <b>Soft Iron Rivets -</b>             |                           |                       |
| round head                            |                           |                       |
| 3/16" x 3/8"                          | 2 lb.                     |                       |
| 3/16" x 1/2"                          | 2 lb.                     |                       |
| 3/16" x 5/8"                          | 2 lb.                     |                       |
| 3/16" x 3/4"                          | 2 lb.                     |                       |
| flat head                             |                           |                       |
| 3/16" x 3/8"                          | 2 lb.                     |                       |
| 3/16" x 1/2"                          | 2 lb.                     |                       |
| 3/16" x 5/8"                          | 2 lb.                     |                       |
| 3/16" x 3/4"                          | 2 lb.                     |                       |
| <b>Washers - Flat, assorted sizes</b> |                           |                       |
| <b>Washers - Lock, assorted sizes</b> |                           |                       |
| <b>Cotter Pins - assorted sizes</b>   |                           |                       |
| Rope - Manila 3/8"                    | 100 ft.                   |                       |
| Rope - Manila 1/2"                    | 100 ft.                   |                       |
| Lumber - 3/4" x 8" x 8'               | 2000 ft.                  |                       |
| Lumber - 2" x 4" x 8'                 | 1000 ft.                  |                       |

**ADDITIONAL EQUIPMENT AND SUPPLIES  
NEEDED FOR ADVANCED AGRICULTURAL  
MECHANICS COURSE**

**Equipment and Supplies:**

| <u>Name of Tool</u>                 | <u>Size and/or Description</u>                              | <u>Number Recommended</u> | <u>Number on Hand</u> |
|-------------------------------------|---|---------------------------|-----------------------|
| Steel Parts Bins                    | 87" x 36" x 12"   | 2                         |                       |
| Combustion Analyzer                 |   | 1                         |                       |
| Battery Charger                     |   | 1                         |                       |
| Oily Waste Can                      | 10 gallon size  | 2                         |                       |
| Battery Terminal Puller             |   | 1                         |                       |
| Work Benches                        | 6' x 34" - Metal  | 4                         |                       |
| Stock Carts with Caster             |   | 4                         |                       |
| Tool Kits                           | For small gasoline engines<br>(Briggs, Stratton, & Clinton) | 2                         |                       |
| File                                | Round, double cut, 6"                                       | 4                         |                       |
| File                                | Round, double cut, 10"                                      | 4                         |                       |
| File                                | Slim taper, 5"  | 4                         |                       |
| File                                | Slim taper, 8"  | 4                         |                       |
| File                                | Tungsten Point  | 4                         |                       |
| Saw File                            | Extra Slim Taper, 5" x 6"                                   | 8                         |                       |
| Set Quick-set Adjustable<br>Reamers |   | 1                         |                       |
| Flexible Exhaust Hose               | 2 $\frac{1}{2}$ "   | 50 ft.                    |                       |
| Outside Micrometer                  | 0" - 1", graduations<br>.001"                               | 1                         |                       |
| Outside Micrometer                  | 1" - 2", graduations<br>.001"                               | 1                         |                       |
| Set Nut Drivers                     | 3/16" to 1/2", 6" length                                    | 1                         |                       |

|                                 |  |       |
|---------------------------------|--|-------|
| Exhaust Fan                     | Explosion Proof, 24", Single phase, 1/2 H.P., 1140 R.P.M., 6200 C.F.M. | 1     |
| Inside Micrometer               | 2" to 8", 1- $\frac{1}{2}$ " gauge                                     | 1     |
| Valve Grinder                   |  | 2     |
| Ring Groove Cleaner with cutter |  | 2     |
| Ring Expander                   | 2" - 4"  | 2     |
| Extension Cord Reels            | 20 ft. cord  | 4     |
| Adjustable Stands               | 5 T. capacity  | 2 pr. |
| Ridge Reamer                    | 2" to 3" with cutter   | 1     |
| Trouble Lights                  | 50' cord   | 4     |
| Lineman's Side Cutter Pliers 7" |  | 2     |
| Long Nose Pliers                | 6"   | 2     |
| Diagonal Cutting Pliers         | 6"   | 2     |
| Starter Punches                 | 1/8", 3/16", and 1/4", 3/8" points - 1/2" stock                        | 4     |
| Line-up Punches                 | 3/16", 1/4" points - 12" long  | 4     |
| Line-up Punches                 | 3/16", 1/4" points - 18" long  | 2     |
| Plastic Hammer                  | Replaceable tips: head 7/8", 1-3/8" and 1-5/8" (2 of each)             | 6     |
| Thickness Gauge                 | Eight leaves, .002 to .015   | 2     |
| Metal Work Benches              | 5' x 30" with back riser & drawer                                      | 4     |
| Hacksaw Frames, adjustable      | Heavy duty, tubular cast aluminum handle                               | 3     |
| Files                           | 12" double cut flat bastard  | 4     |
| Files                           | 8", 10" flat mill bastard  | 4     |
| Files                           | 8", 10" double cut flat smooth   | 4     |
| Files                           | 8", half round bastards  | 4     |
| Drills, high speed              | 1/16 to 1/2"   | 1 set |

|                                |   |               |
|--------------------------------|---|---------------|
| <b>Bench Oilers</b>            |   | <b>6</b>      |
| <b>Cans, Solvent Storage</b>   |   | <b>4</b>      |
| <b>Countersink</b>             | <b>Metal type 1/2" and 3/4"</b>   | <b>2</b>      |
| <b>Pin Punches</b>             | <b>Pin 1/8", 3/16", 1/4", 5/16",<br/>at point</b>                         | <b>4</b>      |
| <b>Drift Punches</b>           | <b>1/8", 3/16", 1/4", 3/8" at point</b>                                   | <b>4</b>      |
| <b>Steel Rules</b>             | <b>24" x 1", 1/4" and 1/8" gradu-<br/>tions</b>                           | <b>2</b>      |
| <b>Steel Rules</b>             | <b>6" with graduations in 1/64's</b>                                      | <b>2</b>      |
| <b>Brush, wire wheel</b>       | <b>3/4" x 6"</b>  | <b>2</b>      |
| <b>Brush, steel</b>            |   | <b>6</b>      |
| <b>Scratch-all's</b>           |   | <b>6</b>      |
| <b>Screw Extractors</b>        | <b>Sizes 1,2,3,4,5,6 with straight<br/>shank drill to match, complete</b> | <b>1 set</b>  |
| <b>Screw Pitch Gauge</b>       | <b>22 pitches, 9 through 40</b>   | <b>1</b>      |
| <b>Grinding Goggles</b>        | <b>Plastic lenses</b>   | <b>4</b>      |
| <b>Pliers</b>                  | <b>Combination slip joint 8"</b>  | <b>2</b>      |
| <b>Pliers</b>                  | <b>Diagonal cutting, heavy duty,<br/>4-1/2" and 6"</b>                    | <b>2</b>      |
| <b>Pliers</b>                  | <b>Water Pump 10"</b>   | <b>2</b>      |
| <b>Vise-grips</b>              | <b>1-7", 1-10"</b>  | <b>2</b>      |
| <b>Putty Knives</b>            | <b>3-3/4" x 1-1/2" blade flexible</b>                                     | <b>4</b>      |
| <b>Paint Scraper</b>           | <b>3" blade</b>   | <b>2</b>      |
| <b>Paint Brushes</b>           | <b>Two 2", two 2-1/2", two 3", two 4"</b>                                 | <b>8</b>      |
| <b>Stencil Brushes</b>         | <b>One 1", one 1-3/8"</b>   | <b>2</b>      |
| <b>Adjustable Stencils</b>     | <b>1" and 2" letters</b>  | <b>2 sets</b> |
| <b>Figure Stencils</b>         | <b>1" and 2" figures</b>  | <b>2 sets</b> |
| <b>Pipe Wrenches</b>           | <b>6", 8", 10", 12", 14", 18", 24"</b>                                    | <b>7</b>      |
| <b>Electric Soldering Iron</b> | <b>200 watts</b>  | <b>1</b>      |

|   |  |              |
|---|--|--------------|
| <b>Electric Soldering Iron</b>                | <b>300 watts, 7/8" tip</b>   | <b>1</b>     |
| <b>Tinners' mallets</b>                       | <b>2-1/2" x 4-1/2", composition</b>  | <b>2</b>     |
| <b>Arc Welders</b>                            | <b>225 amps, 230 or 208 volts<br/>output 40-225 amps, complete with<br/>accessories, cables, holders<br/>clamps, plugs, and receptacle</b> | <b>2</b>     |
| <b>Welding Helmets</b>                        | <b>No. 10 lens, flip front</b>   | <b>4</b>     |
| <b>Combination Wire Brush<br/>and Scraper</b> | <b>1-1/2" x 11"</b>  | <b>2</b>     |
| <b>Chipping Hammers</b>                       |  | <b>2</b>     |
| <b>Arc Welding Tables</b>                     | <b>Shop made</b>   | <b>2</b>     |
| <b>Electrode Holders</b>                      | <b>Shop made</b>   |              |
| <b>Welding Hand Shields</b>                   | <b>No. 10 lens</b>   | <b>6</b>     |
| <b>Carbon Arc Torch</b>                       | <b>For at least 3/8" carbons</b>   | <b>1</b>     |
| <b>Gloves</b>                                 | <b>Chrome tanned split cowhide, five<br/>fingers</b>   | <b>2 pr.</b> |
| <b>Welding Clamps</b>                         | <b>Vise-grip</b>   | <b>2</b>     |
| <b>Oxygen regulator</b>                       | <b>Single stage</b>  | <b>1</b>     |
| <b>Acetylene regulator</b>                    | <b>Single stage</b>  | <b>1</b>     |
| <b>Heavy Duty Welding Torch</b>               |  | <b>1</b>     |
| <b>Welding Tip Assemblies</b>                 | <b>Sizes 1,3,5,7,9, each tip equipped<br/>with mixer</b>   | <b>1</b>     |
| <b>Cutting Torch</b>                          | <b>Complete 75°head, one light and one 1<br/>medium tip</b>  |              |
| <b>Twin Hose</b>                              | <b>1/4", with fittings, 25' long</b>   | <b>1</b>     |
| <b>Tank, Torch and Regulator<br/>Wrenches</b> |  | <b>2</b>     |
| <b>Face Shields</b>                           | <b>Shade #4 green, cellulose acetate<br/>windows, overhead spring flex bands</b>   | <b>2</b>     |
| <b>Goggles</b>                                | <b>#4 lenses, extra wide, to fit over<br/>any size prescription glasses</b>  | <b>2</b>     |
| <b>Welding Gloves</b>                         | <b>Asbestos or leather</b>   | <b>2</b>     |
| <b>Tip Cleaners</b>                           |  | <b>1</b>     |

|  |   |    |
|--|---|----|
| <b>Cylinder Truck</b>                    |   | 1  |
| <b>Spark Lighters</b>                    |   | 2  |
| <b>Oxy-acetylene Welding Table</b>       | <b>Shop made</b>  | 1  |
| <b>Wood Chisels</b>                      | <b>1/4", 1/2", 3/4", 1"</b>   | 4  |
| <b>C-clamps</b>                          | <b>Two 3", two 5", two 7", two 10"</b>                                      | 8  |
| <b>File Cards</b>                        | <b>1-1/2" x 5"</b>  | 2  |
| <b>Assorted File Handles</b>             | <b>Sizes 0" to 4"</b>   | 12 |
| <b>Nail Hammers</b>                      | <b>16 oz. curved claw, octagon neck, finished</b>                           | 2  |
| <b>Nail Hammers</b>                      | <b>20 oz. curved claw</b>   | 2  |
| <b>Hatchet</b>                           | <b>3-1/4" cut, medium weight</b>  | 1  |
| <b>Jack Planes</b>                       | <b>14", 2" cutter</b>   | 2  |
| <b>Smoothing Plane</b>                   | <b>9", 2" cutter</b>  | 2  |
| <b>Crosscut Saws</b>                     | <b>1, 22" - 10 point, two 26" - 8 point curved back</b>                     | 3  |
| <b>Ripsaws</b>                           | <b>26" - 5-1/2 point</b>  | 1  |
| <b>Saw Set</b>                           | <b>Pistol Grip</b>  | 1  |
| <b>Saw Clamp</b>                         | <b>9-1/2" jaws</b>  | 1  |
| <b>Screwdrivers</b>                      | <b>Two 1", two 3", two 4", two 6", two 8", two 12", plastic handles</b>     | 12 |
| <b>Philips Screwdrivers</b>              | <b>2 each, sizes 1,2,3,4</b>  | 8  |
| <b>Off-set Screwdriver</b>               | <b>1-3", 1-6"</b>   | 2  |
| <b>Wrecking Bars</b>                     | <b>5/8" x 18", 3/4" x 30", tool steel</b>                                   | 2  |
| <b>Combination Oil Stones</b>            | <b>7" x 2" x 1" coarse and fine</b>   | 2  |
| <b>Grinding Wheel Dressers</b>           | <b>One No. 1, 1-1/2" cutter - one No. 2, 2-3/8" cutter, corrugated type</b> | 2  |
| <b>Steel Stamps</b>                      | <b>1/4" mounted in wood blocks, letters and figures</b>                     | 1  |
| <b>4-drawer file</b>                     | <b>Letter size with lock</b>  | 1  |
| <b>Standing type shop desk with lock</b> |   | 1  |

**ADDITIONAL EQUIPMENT AND SUPPLIES  
NEEDED FOR CONSERVATION COURSE**

| <u>Name and Description</u>   | <u>Number Recommended</u> | <u>Number on Hand</u> |
|---|---------------------------|-----------------------|
| Topographical Maps - one quadrangle each for sections of county and area  | 15                        |                       |
| 6 inch clear plastic rules "C thru-Exact" #A-23   | 20                        |                       |
| Chain saw - about 19 pounds   | 1                         |                       |
| Leupold Abney Levels 6 1/2 in. - 4 scales   | 2                         |                       |
| Exact Factor Prisms - 10 Factor   | 4                         |                       |
| Triangular Architect scales "Pearwood"  | 18                        |                       |
| Biltmore Cruiser Sticks<br>(to be made in shop)   | 18                        |                       |
| Chain Tapes, Graduated in Feet (200) ft.  | 2                         |                       |
| Chain Tapes, Graduated in Links   | 2                         |                       |
| Drawing Tables #7-7902 Ben Meadows<br>3/4 "X24" "X36" size  | 18                        |                       |
| Pads of Cross Section Paper 8 1/2" x 11"<br>3 hole punched 8 square per inch  | 36                        |                       |
| Pads of Carvel Tracing Paper<br>18" x 24" sheets  | 5                         |                       |
| Rolls of Drafting Tape 3/4 in. wide   | 20                        |                       |
| Diameter Tapes #C120TP Ben Meadows  | 2                         |                       |
| Forester Compass with Jacob Staff,<br>Leather case and ball joint socket  | 2                         |                       |
| Telescoping Extension leg tripod for<br>above compasses<br>found in Forestry Supplier Catalog<br>page 131 #37360, 37380, 37390, 37400 | 2                         |                       |
| 2 gallon gasoline safety can  | 1                         |                       |
| 6 pack oil for chain saw  | 4                         |                       |
| Gallon #10 wt. oil (for chain saw)  | 2                         |                       |
| Files for chain saw   | 2                         |                       |

| <u>Name and Description (cont.)</u>                  | <u>Number Recommended</u> | <u>Number on Hand</u> |
|--|---------------------------|-----------------------|
| Lumber scaling sticks International Rule             | 10                        |                       |
| Loose leaf - 3 ring notebooks 8 1/2" x 11"           | 18                        |                       |
| Package fillers for the above<br>3 ring 8 1/2" x 11" | 20                        |                       |
| Gross #2 pencils                                     | 1                         |                       |
| Gross #3 pencils                                     | 1                         |                       |
| Gross #4 pencils                                     | 1                         |                       |
| Snake Bite Kits                                      | 2                         |                       |
| Doz. cans orange paint for paint guns<br>quart size  | 1                         |                       |
| Portable blackboard                                  | 1                         |                       |
| Flip chart with stand and paper                      | 1                         |                       |
| Carton (12 rolls) orange flagging ribbon             | 1                         |                       |
| Plumb bobs   | 2                         |                       |
| Roll "Mipofolio" 36" x 30"                           | 1                         |                       |
| Winter liners for safety helmets<br>9 large 9 small  | 18                        |                       |
| 6 1/2 inch compasses                                 | 18                        |                       |
| Brush hooks 10"                                      | 4                         |                       |
| Axes - single bit                                    | 6                         |                       |
| Indian fire pump with tank                           | 1                         |                       |
| Protractors 6"                                       | 24                        |                       |
| Straightedge 30"                                     | 6                         |                       |
| T-square 24"   | 18                        |                       |
| Triangles 12" 30° - 60°                              | 18                        |                       |
| Triangles 12" 30° - 90°                              | 18                        |                       |
| Area Scales (assorted)                               | 24                        |                       |
| Land area scales                                     | 18                        |                       |
| Liets drawing set                                    | 1                         |                       |
| Wrice lettering set 140-240                          | 1                         |                       |

| <u>Name and Description (cont.)</u>                          | <u>Number Recommended</u> | <u>Number on Hand</u> |
|--|---------------------------|-----------------------|
| Plastic french curves (assorted)                             | 6                         |                       |
| Lettering pens   | 6                         |                       |
| Draftsman drawing sets                                       | 18                        |                       |
| Tripod magnifiers 10X  | 5                         |                       |
| Pocket magnifiers 10X  | 18                        |                       |
| Letter guide templet   | 2                         |                       |
| Tally boards, aluminum 9" x 12"                              | 18                        |                       |
| Fiber slip boards 9" x 12"                                   | 18                        |                       |
| Replacement scales (Abney Level)                             | 4                         |                       |
| Orsa pruning saw 26"   | 4                         |                       |
| Sandviken saws 18"   | 4                         |                       |
| Blades for bos saw 36"                                       | 6                         |                       |
| Saw and trimmer combination 20"                              | 4                         |                       |
| Sectional aluminum poles 12"                                 | 4                         |                       |
| Long handles shovels 7" x 10"                                | 4                         |                       |
| Safety hats  | 18                        |                       |
| Portable first aid kits                                      | 3                         |                       |
| Planting bars (to be made in shop)                           | 20                        |                       |
| Nels-spot hand gun with nozzle                               | 4                         |                       |
| Sandvik increment borers 10"                                 | 3                         |                       |
| Pole Prunners 12'  | 4                         |                       |
| Film splicer   | 1                         |                       |
| Map measurers  | 3                         |                       |
| 35 mm Camera   | 1                         |                       |
| Praktica 4-B has built in light meter                        |                           |                       |
| F #1.8 Tesser lens and case                                  |                           |                       |
| Set close up tubes for Praktica 4-B                          | 1                         |                       |
| Honeywell Tilt-a-mite flash unit with<br>15 volt B-C battery | 1                         |                       |
| Right angle bracket for flash unit                           | 1                         |                       |
| Orsa bow saws 36"  | 4                         |                       |

| <u>Name and Description (cont.)</u>      | <u>Number Recommended</u> | <u>Number on Hand</u> |
|--|---------------------------|-----------------------|
| Drafting machines with 24" scales        | 2                         |                       |
| Bull Horn "Porto - Paga"                 | 1                         |                       |
| 8" files                                 | 12                        |                       |
| Water cooler "Egloo" 2 gallon            | 1                         |                       |
| Canteens                                 | 15                        |                       |
| Tension handles for tapes                | 2                         |                       |
| Tape repair kit                          | 1                         |                       |
| Tapewriter "Dymo" with tape 40.00 + tape | 1                         |                       |
| Planimeter                               | 2                         |                       |
| Shovels - Round point                    | 6                         |                       |
| Recon compasses                          | 4                         |                       |
| Fire rakes                               | 6                         |                       |
| Steel lettering sets                     | 1                         |                       |
| Steel number set                         | 1                         |                       |
| Etching pencil                           | 1                         |                       |
| Piston ring grove cleaner                | 1                         |                       |
| Piston ring compressor                   | 1                         |                       |
| Grafting wax - Pound                     | 1                         |                       |
| Soil samplers (tube type) - 36"          | 1                         |                       |
| Propane torch set                        | 1                         |                       |
| Chain saw file guide                     | 2                         |                       |
| Paint can carrier pack                   | 1                         |                       |
| Sandpaper - assorted grades              | 1 pkg.                    |                       |
| 1/5 acre plot tapes                      | 8                         |                       |
| Hand Axe                                 | 1                         |                       |
| Rope                                     | 1                         |                       |
| Caliper                                  | 1                         |                       |
| Box Marker Crayon                        | 1                         |                       |
| Paint Brushes                            | 4                         |                       |

| <u>Name and Description (cont.)</u>                                 | <u>Number Recommended</u> | <u>Number on Hand</u> |
|---|---------------------------|-----------------------|
| Set Chaining pins   | 1                         |                       |
| Set Wood I.D. Blocks  | 1                         |                       |
| Cross Cut Saw   | 1                         |                       |
| 2 man power saw   | 1                         |                       |
| Sheets cross section paper (approximately 28-32 x 20) (10 sq./inch) | 1 gross                   |                       |
| 16 mm projector, with splicer, two extra reels                      | 1                         |                       |
| Automatic slide projector, with bulbs                               | 1                         |                       |
| Instamatic camera   | 1                         |                       |
| Over-head projector   | 1                         |                       |
| Opaque projector with extra large screen (8' x 6')                  | 1                         |                       |
| Mimeograph (codo) machine   | 1                         |                       |
| Brush master (Homelite)   | 1                         |                       |
| Tree climbers   | 2                         |                       |
| Transit with tripod (stadia rods) with targets                      | 1                         |                       |
| Compass (range pole) (in feet)                                      | 2                         |                       |

\* \* \* \* \*

This list does not include the necessary equipment and supplies for teaching Agricultural Mechanics to Conservation Classes. If an Agriculture Mechanics shop is not available, then the required equipment and supplies needed for Conservation Classes should be selected from the list of tools, equipment, and supplies for Agricultural Mechanics Classes found elsewhere in this publication.